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# WEALTH AND PROGRESS

OF

# NEW SOUTH WALES.

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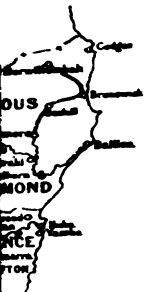

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# THE

# WEALTH AND PROGRESS

## OF

# NEW SOUTH WALES

## 1900-01.

BY

T. A. COGHLAN

*(Honorary Fellow of the Royal Statistical Society),*

STATISTICIAN OF NEW SOUTH WALES.

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# INTRODUCTION.

A PERIOD of over forty-two years has elapsed since New South Wales was restricted to its present boundaries. At the close of 1859, when Queensland was separated from it, the mother State contained a population of 336,572 persons. After forty-two years the number has risen to 1,379,890—an increase of over 1,040,000. During the interval the growth of population was :—

| | |
|---|---|
| 1860 | 348,546 |
| 1870 | 498,659 |
| 1880 | 747,950 |
| 1890 | 1,121,860 |
| 1900 | 1,364,587 |

The birth rate from 1860 to 1869 was 41·83 per thousand of the population ; this rate, however, was not maintained, as the following figures show :—

| | | |
|---|---|---|
| 1860–69 | 41·83 | per thousand. |
| 1870–79 | 38·90 | ,, |
| 1880–89 | 37·31 | ,, |
| 1890–99 | 31·11 | ,, |
| 1900–01 | 27·51 | ,, |

It will be seen from the above figures that the rate declined in each decennial period, while the returns for 1900–01 show that the decrease has continued. The fall in the birth rate is common to all the Australian States, and is the weakest point in their progress. The mortality rates have greatly improved during the last forty-two years. From 1860 to 1869 the average number of deaths per thousand was 17·02 ; from 1870 to 1879, 15·43 ; from 1880 to 1889, 14·92 ; and in the twelve years, 1890–1901, only 12·29 per thousand. Part of this improvement is more apparent than real, being due to the lower average age of the present population as compared with twenty or forty years ago ; but when sufficient allowance has been made on this score, it will be found that there has been a decided falling off in the death rates of the community.

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No part of our progress has been more real than that of Education. In 1860 there were 798 schools of all kinds, with 34,767 scholars on the roll. These figures represent 1 school to 422 persons, and 10 scholars to every 100 persons. The proportion of schools is now about 1 to every 370 persons, while the number of scholars has risen to 22 per hundred of the population. The leavening influence of education may be tested both by the census returns and by the marriage registers. In 1861, 18·68 per cent. of the adult males, and 14·54 of the adult females could not read or write. Forty years later the percentages were 5·37 for males, and 3·57 for females. In 1860, 265 persons out of every thousand married could not sign the marriage register; in 1870, the number was still large, viz., 182; in 1880 it had fallen to 67, and in 1890 to 27, while in 1900 the number had declined to 14, the majority in all cases being persons not born in New South Wales.

The opening up of the vast territory of the State has been a slow and difficult process. The obstacles met with in crossing the mountain barriers, and the difficulty of obtaining money at a reasonable rate of interest, militated against the progress of railway construction during the early period. There were 70 miles of railway open in 1860; these lines, after paying working expenses, earned a total of £11,842, equal to a return of £169 per mile; the mileage under traffic is now 2,845, and the net earnings £1,530,578, representing £538 per mile. The following facts show the extent of railway development which the State has witnessed during the last four decades :—

| Period. | Population per mile of line open. | Net earnings. | Capital expended on lines open. | Train miles per inhabitant. |
|---|---|---|---|---|
| | | £ | £ | |
| 1860 | 4,979 | 11,842 | 1,422,672 | 0·5 |
| 1870 | 1,467 | 101,139 | 5,566,092 | 1·8 |
| 1880 | 882 | 513,298 | 11,778,819 | 4·4 |
| 1890 | 502 | 967,251 | 30,555,123 | 7·4 |
| 1901 | 486 | 1,530,578 | 38,932,781 | 7·9 |

Equally striking progress has been made in the development of postal facilities and in the advantage taken of them by the public. In 1860 there were 289 post offices, of which 36 were also telegraph stations;

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at the beginning of 1901, these had increased to 1,668 post offices and 961 stations. While the letters carried in 1860 numbered 4,230,800, the newspapers 3,668,800, and the parcels and books, 83,700, the corresponding figures for 1903 were 79,602,700 letters and post-cards, 51,500,900 newspapers, and 14,558,400 parcels and books. The telegrams in 1861 were only 74,200, as compared with 3,219,900 in 1900. The largest number of telegrams transmitted in any year was 4,101,000 in 1890. Reduced to a basis of per thousand of the population, the postal figures show as follows :—

| Year. | Letters and Post-cards. | Newspapers. | Parcels, Books, and Packets. | Telegrams. |
|---|---|---|---|---|
| 1860 | 12,350 | 10,710 | 244 | ..... |
| 1870 | 14,455 | 7,784 | 322 | 355 |
| 1880 | 30,034 | 18,925 | 977 | 1,811 |
| 1890 | 57,800 | 36,846 | 8,133 | 3,722 |
| 1900 | 58,776 | 38,027 | 10,749 | 2,377 |

To transact the postal business of the country, mail conveyances travelled 1,461,000 miles in 1860, 5,246,000 miles in 1880, and at least 11,926,000 in 1900.

The oversea trade of New South Wales required, in 1860, the services of 1,424 vessels; in 1901, the number was 3,452. A bare statement of the number of vessels, however, gives no adequate idea of the development of the shipping trade of the country, for the tonnage of vessels inward, in 1860, was 427,835, as against 4,196,408 in 1901. In the first year the average capacity was 300 tons per vessel, compared with 1,216 tons at the present time. A statement of tonnage at the beginning of each decennial period shows continued progress. The figures quoted are for vessels entering the ports of the State.

| | | | |
|---|---|---|---|
| 1860 | ... | ... | 427,835 tons. |
| 1870 | ... | ... | 689,820 ,, |
| 1880 | ... | ... | 1,242,458 ,, |
| 1890 | ... | ... | 2,413,247 ,, |
| 1900 | ... | ... | 4,094,088 ,, |
| 1901 | ... | ... | 4,196,408 ,, |

The value of goods imported into New South Wales in 1901 was £26,928,218, and of goods exported from the State, £27,351,124.

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Of the imports, £19,492,978 were retained for local consumption, and £7,435,240 were re-exported. The average value of imports per inhabitant is now £19 12s. 6d., and of exports, £19 18s. 8d. There were years in which higher values than these were shown; but if the great fall in the price of the staple produce of the country be taken into consideration, it will be found that both the quantity of goods imported and the quantity exported are greater now than at any former period. In the following summary are given the various trade facts for quinquennial periods :—

| Period. | Annual Value of Imports. | | Annual Value of Exports. | |
|---|---|---|---|---|
| | Total. | Per Inhabitant. | Total. | Per Inhabitant. |
| | £ | £ s. d. | £ | £ s. d. |
| 1860–64 | 8,778,305 | 24 3 9 | 7,780,512 | 21 8 9 |
| 1865–69 | 8,936,766 | 20 9 7 | 9,473,836 | 21 14 2 |
| 1870–74 | 10,191,726 | 19 7 0 | 10,999,660 | 20 17 8 |
| 1875–79 | 14,399,377 | 22 14 9 | 13,316,609 | 21 0 7 |
| 1880–84 | 19,582,946 | 24 7 11 | 17,701,505 | 22 1 0 |
| 1885–89 | 21,662,848 | 21 12 11 | 19,040,972 | 19 0 6 |
| 1890–94 | 20,536,781 | 17 10 6 | 22,692,220 | 19 7 3 |
| 1895–99 | 21,669,430 | 16 15 7 | 24,957,958 | 19 6 6 |
| 1900–01 | 27,244,645 | 19 19 10 | 27,757,820 | 20 7 3 |

The export of domestic produce was valued in 1901 at £19,915,884, equivalent to £14 10s. 3d. per inhabitant. This has been exceeded in some previous years, both in amount and in ratio to population; nevertheless, it is evidence of the very large productive power of the State, while there is no other country outside Australasia which exports its own produce on so large a scale compared with its population. The total export of domestic produce from Australasia, including New Zealand, is well over £68,000,000, of which large sum New South Wales claims over one-fourth.

In no branch of industry has the progress of New South Wales been more conspicuous than in agriculture. The breadth of land devoted to the plough was, in 1860, not much more than 246,000 acres. At the present time it is about 2,274,000 acres, the unfavourable season being responsible for a decline from the previous year's total, which stood at 2,447,000 acres.

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The progress for each decennial period was as follows :—

| Year. | Area under cultivation. |
|---|---|
| 1860 | 260,798 acres. |
| 1870 | 426,976 ,, |
| 1880 | 710,337 ,, |
| 1890 | 852,704 ,, |
| 1900 | 2,440,968 ,, |
| 1902 | 2,274,493 ,, |

Wheat, of course, is the main crop. In 1860 there were 129,000 acres devoted to this cereal. As late as 1880 the area under cultivation was only 253,000 acres, which in 1902 had expanded to 1,389,000 acres. Owing to long-continued dry weather, however, this acreage shows a great falling off from last year, when the area was returned at 1,530,600 acres.

The pastoral progress of the State has been much less satisfactory than the agricultural. The latest returns in regard to sheep show a total of 41,858,000; these figures are for December, 1901, and are the highest for the last four years. The maximum number of sheep in the State was 61,831,000 in 1891, every year since showing a large reduction. The number of horses at the present time is 486,258, the returns for the last three years showing a slight improvement. The number of cattle is 2,045,000, which is considerably below the average of the past ten years, but so great has been the attention paid to dairying that the value of production from cattle is yearly increasing. The number of dairy cows in the State is now 418,000, and the weight of butter produced 41,479,800 lb., and of cheese 3,558,800 lb. In spite of the reduced number of sheep, wool maintains a high position among the exports of the State. Included in the total value of domestic produce exported in 1901 is wool valued at £9,035,437.

The total value of minerals won in New South Wales up to the end of 1901 was approximately £138,257,000, to which gold contributed £49,661,815; silver and lead, £32,716,663; tin, £6,582,494; copper, £5,875,939; coal and natural coke, £40,081,235; and kerosene shale and cannel coal, £1,970,623. Owing to the great fall in the price of silver, the value of that metal won in New South Wales was less in

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1901 than that of coal, but it surpassed that of gold. The following is the value of these minerals won during 1901, the total value of all minerals being approximately £5,854,000 :—

| | £ |
|---|---|
| Coal ... ... ... ... ... | 2,178,929 |
| Silver and silver lead ... ... ... | 1,854,463 |
| Gold ... ... ... ... ... | 921,282 |

The production of gold has greatly increased of late years, and the return for 1899 is larger than that of any year since 1863, and was only five times exceeded since the first discovery in 1851. Protracted dry weather, however, retarded alluvial operations in 1901, and the production fell to the lowest for the last eight years. The quantity of coal raised in 1901 was 5,968,426 tons, the largest output yet recorded. Coal has fallen greatly in price during the last twenty years, but the averages for the last four years show an upward tendency, the price in 1901 being 7s. 4d. per ton, compared with 6s. 1d. in 1900, 5s. 9d. in 1899, and 5s. 5d. in 1898. In 1891 the average was as high as 8s. 8d. in 1885 9s. 4d., and in 1883 9s. 6d.

Manufactories and allied processes afford employment for 78,000 persons, agriculture employs 67,140; dairying, &c., 27,170; the pastoral industry, 26,620; mining, 43,750; and forestry and fisheries, 7,500. These total 250,180 persons and comprise the so-called productive employments. The value of production for 1900—the last year for which an exact estimate can be made—was £40,921,500, thus distributed amongst the classes named :—

| | £ |
|---|---|
| Manufacturing and allied processes ..... | 10,696,800 |
| Agriculture ..... | 5,955,700 |
| Dairying, &c. ..... | 3,617,000 |
| Pastoral Industry ..... | 13,707,000 |
| Mining ..... | 6,469,000 |
| Forestry and Fisheries ..... | 796,000 |
| | 41,241,500 |
| Deduction for raw material, included twice | 320,000 |
| Net Production ..... | 40,921,500 |

The sum just given represents £30 4s. 4d. per inhabitant—a figure which is not equalled by any country outside Australasia.

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It is not possible to compare the public finances of the Australian States with those of other countries, unless it be with those few states where the Government undertake similar functions. The railways, telegraphs, and telephones, are the property of the State in each province and large debts have been incurred for the purpose of constructing these works; and in New South Wales the land revenue of the State is nearly as large as that derived from taxation. New South Wales has no general system of local government, and the maintenance and construction of roads, bridges, punts, wharfs, and other purely local works fall to the general government; hence the extremely large expenditure per inhabitant which New South Wales shows as compared with other countries of like area and population. The revenue of New South Wales for 1900–01 amounted to £10,805,543, thus derived :—

| | £ |
|---|---|
| Land Revenue | 2,123,363 |
| Railways and other Services | 4,820,204 |
| Posts and Telegraphs | 580,539 |
| Taxation | 2,013,486 |
| Other Revenue | 1,267,951 |
| Total £ | 10,805,543 |

Included in the amount of £1,267,951 is a sum of £883,273 representing balance of revenue collected within the State by the Commonwealth and returned to the State Government.

The expenditure of the State was distributed as follows :—

| | £ |
|---|---|
| Railways and other Services | 2,568,238 |
| Interest and redemption of Loans | 2,616,264 |
| Post and Telegraphs | 527,254 |
| Public Instruction | 785,279 |
| Other Services | 4,425,827 |
| Total £ | 10,922,862 |

The public debt of New South Wales stood, on 30th June, 1901, at £67,361,246. Of this large sum the major portion was expended upon works from which direct revenue is derived, viz. :—

| | £ |
|---|---|
| Railways | 40,450,473 |
| Tramways | 2,720,338 |
| Telegraphs and Telephones | 1,255,600 |
| Water Supply | 6,008,533 |
| Sewerage | 3,870,300 |
| Docks and Wharfs | 2,285,757 |
| Total £ | 56,591,001 |

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These give a total of £56,591,001, leaving a balance of £10,770,245, representing expenditure on unproductive works and services, together with the difference between the actual money received as the proceeds of loans and the face value of the debentures and stock issued. The sum of £67,361,246 is undoubtedly very large. It represents a total interest payment of £2,346,852 per annum, and an indebtedness of £49 6s. per inhabitant. There is, however, another view of the case. The assets of the Government of the State are the public works, elsewhere described in this volume, which yield an income of £1,993,000 after all charges of maintenance and working have been defrayed; and the public lands, of which 126,085,000 acres are leased for pastoral or mining purposes, and 20,130,300 acres sold on deferred payments, the balance due in respect of which amounts to £10,305,900, bearing interest at the rate of 4 and 5 per cent. From the public estate there is obtained an annual revenue of about £1,227,000, or, allowing £150,000 for administration, a net revenue of £1,077,000; so that the State has a revenue of £3,070,000, or £498,544 in excess of the whole charge for the public debt, without having to resort to taxation of any kind, and without parting with any more of the public lands. This fact alone ought to be evidence, if any such were wanted, of the ability of New South Wales to meet its engagements with the public creditors; but this is a point on which little need be said, for the security enjoyed by those who hold the debentures of the State lies more in the wealth and integrity of the people than in the actual possessions of the Government.

The 348,000 persons in the State in 1860 had on deposit in the various banks a sum of £5,721,000. This represents £16 per inhabitant, and was considered at the time to be a very wonderful achievement. Deposits increased very rapidly, and reached their highest point in 1891, just before the bank crisis, with a total of £43,597,000, or £38 per inhabitant.

The figures for 1891 include a large amount obtained in England and deposited in the State, but this has been to a large extent withdrawn, and the sum shown in the returns, as deposited at the close of 1900, represents more New South Wales money than at any previous period,

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proving how completely the country has recovered from the crisis of 1893. The amount of money on deposit at various periods was:—

| Year. | Amount. | Average per Inhabitant. |
|---|---|---|
| | £ | £ s. d. |
| 1860 ..... | 5,721,208 | 16 8 3 |
| 1870 ..... | 7,044,464 | 14 2 6 |
| 1880 ..... | 19,958,880 | 26 13 8 |
| 1890 ..... | 43,390,141 | 38 13 6 |
| 1900 ..... | 44,302,056 | 32 9 4 |

The most satisfactory feature connected with the accumulation shown by the increase in deposits is the amount of money at the credit of small depositors.

The savings' banks had on their books at the close of the year 1901 about 306,300 depositors, with £11,808,700 to their credit. The number of depositors is not so large as in the neighbouring State of Victoria, which has the extraordinary number of 393,000 depositors in savings' banks, or nearly one out of every three persons, but it shows a wonderful development of the capacity for saving amongst so small a population. Taken at intervals of ten years, the growth of popular savings has been:—

| Year. | Number of Depositors. | Amount deposited. | Average per Inhabitant. |
|---|---|---|---|
| | | £ | £ s. d. |
| 1860 ..... | 12,027 | 557,197 | 1 12 0 |
| 1870 ..... | 23,570 | 936,465 | 1 17 7 |
| 1880 ..... | 61,531 | 2,075,856 | 2 15 6 |
| 1890 ..... | 143,826 | 4,730,469 | 4 4 4 |
| 1900 ..... | 282,643 | 10,901,382 | 7 19 9 |
| 1901 ..... | 306,311 | 11,808,710 | 8 12 1 |

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# LIMITS AND AREA.

THE State of New South Wales lies almost entirely between the 29th and 36th parallels of south latitude, and between the 141st and 153rd meridians east of Greenwich. It is bounded on the east by the Pacific Ocean, to which it presents a coast-line extending over 700 miles, from Point Danger at its north-eastern extremity to Cape Howe at the south-east. From the point last mentioned, which is also the north-east limit of the state of Victoria, it is bounded by an imaginary line, running in a north-westerly direction to the source of the Indi, a stream rising at the foot of Forest Hill, a few miles south of the Pilot Mountain, one of the most conspicuous peaks of the Australian Alps. The southern boundary of the state follows the course of the Indi, and afterwards of the Murray, into which the first-named stream ultimately merges, as far as the 141st meridian of east longitude. The intersection of the Murray with this meridian forms a common point of the three states of New South Wales, Victoria, and South Australia.

On the west the state is separated from South Australia by the line of the 141st meridian, as far as its intersection with the 29th parallel of south latitude, at which point New South Wales, South Australia, and Queensland touch. Commencing at this point, the northern boundary of the state follows the 29th degree of latitude, till it is crossed by the Macintyre River, one of the upper branches of the Darling, not far from the 149th meridian. Thence it follows the course of the Macintyre upward, to the junction of its tributary, the Dumaresq; leaving the Macintyre, it follows the tributary stream till it meets a spur extending from the Main Dividing Range to the junction of Tenterfield Creek and the Dumaresq. The boundary runs along this spur until it joins the main range, thence, almost parallel to the coast, it follows the Dividing Range to Wilson's Peak, where the Macpherson Range branches eastward. Following the last-named range, the northern boundary reaches the coast at Point Danger.

The area comprised within these limits is estimated at 310,700 square miles, or 198,848,000 acres, being a little over two-and-a-half times that of Great Britain and Ireland. Excluding the surface covered by rivers and lakes, the area would be 195,882,150 acres, or about 306,066 square miles.

The length of the state, from Point Danger on the north to Cape Howe on the south, is 680 miles. From east to west, along the 29th parallel, the breadth is 760 miles, while diagonally from the south-west corner, where the Murray passes into South Australia, to Point Danger, the length reaches 850 miles.



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# PHYSICAL CONFIGURATION.

THE surface of New South Wales is divided naturally into three distinct zones, each widely differing in general character and physical aspect, and clearly defined by the Main Dividing Range, which traverses the country from north to south. The table-land, which forms the summit of this range, comprises one of the zones above mentioned, and marks the division between the coastal region, forming the eastern watershed, and the great plain district of the interior.

## MOUNTAINS, TABLE-LAND, ETC.

The Main Dividing Range runs almost parallel to the coast, at no great distance from it. On the eastern edge of the table-land the mountains rise abruptly to a height which averages between 2,000 and 3,000 feet, while on the western side they slope gradually towards the great central plain. The geographical centre of the whole mountain system of south-eastern Australia lies in the south-eastern portion of New South Wales, close to the confines of Victoria. Here some of the peaks rise to a height of over 7,000 feet above the level of the sea. Mount Kosciusko and Mount Townsend, two of the highest peaks of the Australian Alps, attain an elevation of 7,328 feet and 7,260 feet respectively.

The central plateau, which these heights dominate, becomes subdivided into several branches, marking the watershed of three distinct river systems. The eastern watershed extends throughout the whole length of New South Wales and Queensland, and drains into the Pacific Ocean. The western watershed, embracing a portion of the three eastern states, is drained by the river system of the Murray and Darling into the Southern Ocean. In the southern watershed the Snowy River has its source, its upper basin being entirely in New South Wales, although its waters flow through Victoria and enter the sea near Point Ricardo, south-west of Cape Howe.

In the south-eastern portion of the state, which has the appearance of having been convulsed by some great physical disturbance, the width and altitude of the table-land are greatest. The mountains, however, are rugged and their slopes abrupt, as is also the case in other portions of the Dividing Range, particularly in the Blue Mountains and the eastern parts of New England. The average height of the Snowy and Muniong Ranges, which belong to the south-eastern district, reaches 5,000 feet; and the width of the plateau, in the direction of east and

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west, may be set down at 100 miles. The altitude of the Monaro district averages 2,000 feet above the sea-level; but as the table-land runs northward it decreases greatly in height and in width, until it narrows to a few miles only, with an elevation of scarcely 1,500 feet.

The table-land rises again at the Blue Mountains, where the principal summits attain a considerable elevation, Mount Beemarang reaching 4,100 feet. The general level of the plateau itself will be best understood when it is remembered that the Great Western Railway of the state traverses a district in these mountains, of which all stations from Leura to Rydal, a distance of 46 miles, are situated at an elevation of over 3,000 feet, or within a few feet of that height. The dividing chain again decreases gradually in its spread northward of the Blue Mountains, until, as a comparatively narrow ridge, it divides the waters of the Goulburn and the Hunter, on the eastern slope, from those of the Namoi and the Castlereagh, on the western. The mass once more widens out in the Liverpool Ranges, where Mount Oxley stands conspicuous at a height of 4,500 feet, whilst still farther north Ben Lomond reaches 5,000 feet, and the table-land maintains an average altitude of 3,000 feet, giving to this district, although situated at no great distance from the tropics, the climate and aspect of much higher latitudes.

Narrow valleys and deep gorges everywhere break the continuity of the Dividing Range. Such is especially the case in the Blue Mountains, where the scenery is of striking and characteristic grandeur. The table-land everywhere presents one strange peculiarity. The level land suddenly terminates, and many hundred feet below, as far as the eye can reach, wooded valleys extend, whose undulating floors are walled in by sandstone cliffs, of height so enormous as to be without parallel elsewhere in the world. At the bottom of these valleys small rivulets and tiny streams, fed by waterfalls from the table-land, trace their way, under an ever-verdant dome of graceful tree-ferns and giant eucalypti.

The mountain scenery of this part of New South Wales produces on the traveller an entirely new impression. Here are no snow-capped peaks upon which the rising and setting sun produces strange and magnificent colour effects, nor does any peculiar shape of the summits strike the imagination, as in the Alps and Pyrenees of the Old World. On the contrary, from the plains the New South Wales mountains look rather insignificant. But gazing from the edges of the high table-land into the deep valleys below, the mind is awed by the realisation of the magnificent scale on which Nature has worked in these solitudes. In many places the cliffs rise 2,000 feet perpendicularly from the valley beneath, and the hills at their feet, formed by the accumulation of debris from their sides and from the plateau above, appear as slight undulations. The valleys and sides of the gorges, wherever there is soil, are clothed with dense vegetation, and over all is the mantle of blue haze which makes the whole effect most striking, and which has given to the range visible from Sydney its appropriate name.

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The main range throws off many spurs towards the sea on the eastern slope. These divide the waters of the numerous rivers which flow into the Pacific Ocean. Almost everywhere between the coast range and the sea the country is hilly and serrated, more particularly in the southern portion of the state. In the Illawarra district, 50 miles to the south of Sydney, the mountains skirt the very edge of the coast, presenting towards the ocean a perpendicular face of cliffs nearly 1,000 feet in height. Farther north there is a wider coast-land, with greater stretches of country available for tillage and pasture.

The western slope is entirely different. Numerous ramifications of the general mountain system are thrown off, but all slope gently towards the great central plain of the interior. So gentle, indeed, is the declivity that the dividing lines of the various watersheds as they extend westward are scarcely visible, being only indicated by a succession of low ridges and isolated elevations.

In the extreme west of the state, verging on South Australia, another mountain system exists, forming the western edge of an immense depression, through which the largest rivers of the Australian Continent hold their devious course. The Barrier and the Grey Ranges are part of this system. They consist of low hills, hardly rising to the dignity of mountains, and culminating in a few solitary peaks, such as Mount Arrowsmith and Mount Lyell, which attain an elevation of only 2,000 feet above sea-level.

Traces have been found of the existence at some earlier period of a range of primary rocks, extending from Orange to Cobar and Wilcannia, and forming the watershed between the Lachlan and part of the basin of the Darling. The range no longer exists as a landmark, for owing to denudation it has almost entirely disappeared.

The whole mountain system of New South Wales lies below the limit of perpetual snow. On the south-eastern slopes of the Snowy Ranges, however, and in sheltered crevices of the high peaks of the Australian Alps, snow sometimes lingers throughout the year.

## Lakes of the Mountain Region.

On the summit of the Main Dividing Range, and within a few miles of the inland towns of Goulburn, Queanbeyan, and Braidwood, two of the principal lakes of the state are situated. Lake George is 16 miles in length and 6 miles in width, draining a basin whose area is about 490 square miles. It is situated at an elevation of 2,200 feet above the sea, and the scenery around it is very beautiful. This lake exhibits the phenomenon of a large drainage area without a visible outlet, for though it receives many small water-courses, no stream leaves it. Lake Bathurst, a few miles east of Lake George, is another depression on the summit of the Dividing Range, and covers in ordinary seasons an area of about 15 square miles. It is similar in character to Lake George, having no outlet to the sea. Both lakes, in periods of great drought,

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shrink considerably in area; but Lake George in most seasons is a fine sheet of water, and now that the railway to Cooma skirts its shores, the attractiveness of its scenery makes it a favourite resort of tourists.

## The Coastal Region—Rivers.

The main range already described, traversing the country from north to south, gives rise to numerous rivers flowing into the South Pacific. Compared with the western rivers of the state, those of the eastern slope appear insignificant enough; but contrasted with the principal rivers of western Europe, their relative size and importance are at once manifest.

In the extreme north of the state, the Tweed and Brunswick Rivers flow through a rich country of semi-tropical aspect. Their courses are short, and bar-entrances render them navigable only for small craft.

A few miles south of the Brunswick, the Richmond descends from the heights of the Macpherson Range, on the slope of Mount Lindsay, one of the highest peaks of the northern table-land. The river has three branches, and is navigable on the main arm as far as Casino, 62 miles, and on Wilson's Creek to Lismore, 60 miles from the sea. The Richmond drains an area of about 2,400 square miles of country, rugged in its upper basin and heavily timbered, and in its lower course flowing through rich alluvial land, where the produce of semi-tropical climes grows luxuriantly.

Immediately south of the last-named stream is the Clarence—the largest river on the eastern watershed. It takes its rise in a spur of the Main Dividing Range, and runs in a south-easterly direction for 240 miles, carrying a considerable body of water through one of the richest districts of the state, and emptying itself into the Pacific at Shoal Bay. The upper part of its basin is very rugged, so much so that its principal tributaries, the Mitchell, Nymboi, Timbarra, and Orara Rivers, rising in the New England table-land, between Armidale and Tenterfield, all flow in an opposite direction to the course of the main stream, generally trending to the north-east, and even, in the case of the Orara and the Nymboi, to the north-west. The Lower Clarence is a magnificent stream, averaging half-a-mile in width, from its mouth upwards, for nearly 50 miles, and it is navigable for 67 miles, as far as Copmanhurst. Ocean-going steamers of large tonnage ascend the river as far as Grafton, 42 miles from the sea. The area of country drained by the Clarence is over 8,000 square miles, or nearly half as large again as the basin of the Thames, whose course, although about as long as that of the Clarence, is navigable for only 60 miles.

Two short rivers, the Bellinger and the Nambucca, both navigable for some distance by small craft, enter the Pacific between the Clarence and Trial Bay.

Into Trial Bay, the Macleay, one of the principal rivers of the coast, discharges, after a course of 200 miles from its source near Ben Lomond.

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With its principal feeders, the Guyra, the Apsley, and the Chandler, the Macleay drains an area of 4,800 square miles of country, the upper part of which, especially that portion through which the Apsley flows, is extremely rugged and precipitous. Series of waterfalls, some of which have a perpendicular descent of over 200 feet, mark the course of this stream, as it runs through narrow gorges whose sides rise in places to a height of about 2,000 feet. In its lower course the valley widens very considerably into magnificent alluvial plains, fast becoming the home of a numerous and thriving population. The Macleay is navigable for more than 30 miles, as far as the town of Greenhills, a few miles above Kempsey. The country through which it flows is for the most part thickly timbered.

The Hastings is the next stream met with, emptying itself into the sea at Port Macquarie. The country which it drains is rich, undulating, and densely wooded, and the area within its watershed is 1,400 square miles. Its chief arm is formed by the Wilson and Maria Rivers, on the left bank, the latter joining the main stream a few miles above Port Macquarie.

The Manning rises in the Main Dividing Range, and flows almost due east through a prosperous district, rapidly becoming settled. The valley through which it flows is densely wooded, and the agricultural land on both sides of the river is unsurpassed for fertility. The Manning has a length of 100 miles, and, like most of the rivers of the seaboard, its course lies through undulating country, broken in the upper portion, but widening out as it nears the sea. Its chief tributary is the Barrington, on the right bank; on the left, it receives the Barnard River, the Dawson, the Lansdowne, the Nowendoc, Rowley's River, and other small streams. The Manning is navigable for ocean-going vessels as far as Wingham, about 20 miles from its mouth.

Before reaching the Hunter, several small streams are met with, amongst which may be mentioned the Wollomba and Maclean, falling into Wallis Lake; the Myall, which empties into Myall Lake; and the Karuah, which reaches the ocean at Port Stephens.

The Hunter is one of the chief rivers of the state, and has its source in the Liverpool Range. It flows first in a southerly direction until its confluence with the Goulburn; thence it takes an easterly course, and reaches the sea at Port Hunter, on the shores of which is situated the city of Newcastle. The Hunter receives numerous tributaries. The chief of these, in addition to the Goulburn, already mentioned, are the Wollombi, the Paterson, and the Williams. With its tributaries, the Hunter drains a country extending over 11,000 square miles—an area more than twice as large as the basin of the Thames. The river is navigable for ocean-going vessels as far as Morpeth, 34 miles from the sea; whilst the Paterson and the Williams are both navigable, the one for a distance of 18 miles, and the other for 20 miles. The upper courses of the main river and its branches are through hilly, if not mountainous districts; but its lower course is mainly through rich,

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sandy, alluvial flats. Through its lower course, the river drains the largest and most important coal-field in Australia, whose emporium is Newcastle, the second city of the state in shipping and commerce. The length of the Hunter is over 200 miles.

Though less important than the Hunter, from a commercial point of view, the Hawkesbury, which reaches the sea at Broken Bay, is none the less one of the finest rivers of the eastern seaboard. It is formed by the united waters of many streams, each of considerable local importance. Its chief tributaries come from the table-land or gorges of the Blue Mountains, but the principal branch of the river itself rises in the main range, farther south. The range forming the watershed between the Hawkesbury and the streams flowing eastward, leaves the main range near Lake Bathurst, runs north-easterly, and terminates at the sea near Coalcliff.

Under the name of the Wollondilly, the Hawkesbury has its source not many miles from Goulburn. Flowing past that town, it proceeds in a northerly direction until it receives the waters of the Cox River, which come from the Blue Mountains, after passing through wild gorges, wherein may be found some of the most magnificent scenery in Australia. From the junction of the Cox River the stream is known as the Warragamba, which name it retains until its junction with the Nepean. This river rises in the coast range overlooking Wollongong, and together with its tributary streams, the Cataract and Cordeaux, forms the source of the water-works from which Sydney now draws its supply. Though smaller than the Warragamba, the Nepean gives its name to the united waters of the two streams. After receiving the Nepean, the river flows along the foot of the Blue Mountains, through a rich valley highly cultivated. From the Blue Mountains it is augmented by the waters of two streams, the Grose and the Colo, and from the junction of the latter the river is called the Hawkesbury. Still running northward, it is joined by the Macdonald, an important stream, navigable for some distance above its confluence with the Hawkesbury. The Macdonald comes from the north, and joins the river on the left bank. After turning to the east, the Hawkesbury holds its course through broken country, the scenery of which has been pronounced equal to any other river scenery in the world, and finally reaches the sea at Broken Bay. Its course extends over 330 miles, and the drainage area may be set down as 8,000 square miles. Navigation is possible as far as Windsor, 70 miles from the mouth, and a little dredging would enable sea-going vessels to reach that town.

In the neighbourhood of Sydney, some small streams fall into Botany Bay. Two of these, the Woronora and George's River, have their sources on the eastern slope of the ranges in which the Nepean, Cordeaux, and Cataract rise, and after rapid courses unite their waters before falling into the bay.

Generally speaking, the rivers south of Sydney are of less importance than those to the north, as the width of the coastal strip narrows

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considerably. The Shoalhaven, nevertheless, merits more than passing notice. Rising in the coastal range and following the direction of the coast, it flows northerly through deep gullies, marked by magnificent scenery peculiarly Australian; then turning sharply to the east, it enters the alluvial plains, which are counted amongst the richest and most productive in the country. The Shoalhaven is 260 miles in length, but is navigable only for a few miles, and drains a district 3,300 miles in area. Farther south, in the narrow belt between the ranges and the sea, flow the Clyde, Moruya, Tuross, and Bega Rivers. They all pass through rich, undulating, agricultural country, and each has an average length of 60 to 70 miles. The Towamba River, at the extreme south of the state, empties itself into the Pacific at Twofold Bay.

The physical aspect of the eastern rivers is much the same, their upper course being amidst broken and mountainous districts, and their lower waters flowing through undulating country with rich alluvial flats along their banks, for the most part highly cultivated. Where uncultivated, the country is densely covered with timber, some of which attains a magnificent growth, yielding the finest hardwood, and, in the north, cedar and pine.

Though belonging to another river system, the upper basin of the Snowy River is situated in New South Wales. This river receives the snow-fed streams rising on the southern slopes of the Monaro Range, its principal tributaries being the Bombala and the Eucumbene. The Snowy River and its tributaries water a considerable portion of the highest table-land of the state, between the mountain ranges of which are found large tracts of arable land, where the produce of colder climes may be grown to perfection. After leaving New South Wales, the Snowy has a rapid and tortuous course, and finally enters the sea between Cape Howe and Bass Straits, in the state of Victoria. The area of its watershed in New South Wales is about 2,800 square miles.

### Harbours and Ports.

With a coast so extensive as that of New South Wales, it would be natural to expect many harbours and bays affording outlets for the produce of the country, and such is the case. Besides harbours of commercial importance, there are others which afford shelter for vessels in stress of weather, and a refuge in time of danger. Fortunately, however, harbours of refuge are not often required. The coast of the state is singularly free from cyclones, hurricanes, and like visitations. Gales are certainly not unknown, and casualties are not infrequently recorded; but the coast is very safe, and in many cases disasters are to be attributed to causes which ordinary prudence could have averted.

Inside Cape Byron, in the north of the state, the bay of the same name offers shelter, in all but north-east weather, to vessels trading to Queensland. A large pier has been constructed, by means of which the produce of the neighbouring districts of the Brunswick and Tweed may be shipped when an entrance to these rivers is impracticable.

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At Shoal Bay, the entrance to the Clarence, the anchorage is safe and commodious, and when the works designed for improving the river entrance are completed, it promises to be one of the best ports on the coast.

Trial Bay, at the mouth of the Macleay, affords ample shelter and safe anchorage. The Government have erected a large prison on the hill overlooking the Bay, and are now utilising the prisoners' labour in constructing a breakwater, with the view of making Trial Bay not only a harbour of refuge, but a shipping port. When this design is accomplished, there is every reason to suppose that it will become one of the most frequented places on the coast, as the resources of the Macleay District are great and are rapidly developing.

Port Macquarie, at the mouth of the Hastings, and the harbour at Forster, near Cape Hawke, afford good anchorage. Port Stephens, a little farther south, offers at all times the safest and most commodious harbour desirable. As a natural port it is hardly inferior to Port Jackson, and the scenery of its shores is very beautiful. At present Port Stephens is little used, owing to its proximity to Newcastle and to the sparseness of the population in its immediate neighbourhood.

Twenty miles farther south is Port Hunter, at the mouth of the river of that name. When first used, the harbour was inconvenient and somewhat dangerous; but this has been altered entirely by the breakwaters and training-walls which have been constructed. Newcastle harbour is now safe and roomy, with shipping facilities equal, if not superior, to those found in any other Australian port. Magnificent wharves line its shores, provided with hydraulic and steam cranes of the most modern type. The length of wharf frontage is more than two miles, the trade is large and increasing, and the city ranks third amongst Australasian seaports. The importance of Newcastle is mainly due to the existence of immense coal deposits in its neighbourhood, which supply not only all the Australian provinces, but the China seas, the Pacific slopes of the United States, and the countries bordering on the Spanish main. Latterly, too, large shipments of wool have been made direct to English ports, Newcastle having direct communication by railway with the northern districts of the state.

A few miles farther south is Lake Macquarie, in the centre of the coal-field of the Newcastle district, and covering an area of 44 square miles. The great drawback to the lake as a shipping port has been the shallowness of its entrance; but extensive dykes and training-walls have been commenced, which have already increased the draught of water in the channel, and with some further improvements Lake Macquarie will become an important shipping place.

Broken Bay, 15 miles north of Port Jackson, forms the mouth of the River Hawkesbury. It has a bold entrance, and on Barranjoey, the southern headland, a fine lighthouse has been erected. The bay has three branches, Brisbane Water being the northern, the Hawkesbury mouth the centre, and Pittwater the southern arm. The first-named opens out into a series of lakes, and the town of Gosford, standing at the

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head of one of them—the Broadwater—is the centre of an important district. The scenery at and around Broken Bay is characteristically Australian, and in natural beauty rivals even Sydney Harbour. South of Broken Bay the coast-line is a succession of high cliffs and sandy beaches.

The entrance to Port Jackson lies between perpendicular cliffs of sandstone several hundred feet high, and only 74 chains, or nearly one mile, apart. Sydney Harbour has been too often described to require a lengthy reference here. It holds the first place amongst the harbours of the world for convenience of entrance, depth of water, and natural shipping facilities. Its natural beauties charm all who visit its shores, and in the quiet waters of its numerous bays and coves the navies of the world might securely rest. The area of water surface of the harbour proper is 15 square miles, and the shore-line is 165 miles in circuit. At the South Head is erected a splendid lighthouse, fitted with an electric arc light, the power of which is only exceeded by two or three lights in the world. On the shores of Port Jackson stands Sydney, the capital of New South Wales and the mother city of the Australias. The city and its suburbs occupy 142 square miles, and on the 31st March, 1901, had within their boundaries about 482,000 people.

Botany Bay, the first port entered by Captain Cook, the discoverer of this territory, lies a few miles south of Sydney. It covers an area of 24 square miles, and receives the waters of several small rivers. The bay has very little trade, by reason of its proximity to Sydney, but it is frequented by craft in search of shelter during stress of weather.

Wollongong, Kiama, and Ulladulla are small harbours which have been snatched, as it were, from the sea, and are important shipping places.

About 80 miles to the south of Sydney the coast is broken by an important inlet called Jervis Bay. Its entrance is 2 miles wide, and on its bosom safe anchorage may be found in any part. It is surrounded by rich agricultural and mineral country, as yet unexploited. Nature has been so bountiful to the country as a whole that particular districts, undoubtedly rich, must remain for a while undeveloped, and ports which would in older countries be prized for their convenience and capacity here remain unused, save as refuges in stormy weather.

Bateman's Bay, at the entrance to the Clyde, is an inlet of some importance, and coastal steamers also load produce at the mouths of the Moruya, Tuross, and Bega Rivers.

Twofold Bay is a magnificent sheet of water, near the southern limit of the state. Formerly it was the seat of a large whaling trade, which is now, however, all but extinct. It is well sheltered, and a fine jetty affords ample shipping facilities. Its trade is chiefly with the neighbouring states, in produce and live stock, the bay being the nearest outlet on the sea-coast for the rich district of Monaro. A railway is planned to connect the port with the table-land and the metropolis, and Twofold Bay promises to become a considerable shipping place in the near future. On its shores is situated the town of Eden.

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Besides the ports and harbours, properly so called, which have been enumerated above, there are several lakes, or arms of the sea, which will, with the development of the resources of the country, become ports of shipment. From Cape Hawke a chain of lakes extends to Port Stephens, communicating with the latter through the Myall River, and covering a large area. The most extensive of these are Wallis Lake, Myall Lake, and the Broadwater. The country round about is richly timbered, but its resources are still undeveloped. Between Lake Macquarie and Broken Bay is Tuggerah Lake, also an extensive sheet of water. South of Wollongong is Lake Illawarra, of considerable area, but shallow, and towards the south of the state are Coïla and Tuross Lakes, into which the Tuross River discharges.

### Islands.

No islands of any note belong geographically to New South Wales. The Broughton Islands, lying a few miles northward of the Heads of Port Stephens, are the largest in extent. Solitary Island, situated near the northern part of the coast, between the Bellinger and Clarence Rivers, and Montagu Island, 18 miles south-east of the Moruya River estuary, have been selected as sites for lighthouses, but are not otherwise important. Norfolk Island, having an area of 8,607 acres, has recently been placed under the administration of the New South Wales Government; and Lord Howe Island, 3,220 acres in extent, and lying some 360 miles off the coast, in the latitude of Port Macquarie, belongs politically to the state.

### Western Watershed.

The western watershed of the state is, in its physical features and geographical character, the antithesis of the eastern. Instead of a narrow strip of country shut in by the sea and mountains, and intersected by numerous short rivers with a rapid flow, the western watershed forms a vast basin through which the quiet waters of a few great rivers have their long though uncertain courses. The rivers of the western region all belong to the fluvial system of the Murray, which carries to the Southern Ocean, through the state of South Australia, the drainage of a watershed immense in extent, embracing the northern portion of Victoria and the western and larger part of New South Wales, and reaching almost to the centre of Queensland.

The Murray, or Hume, the southern branch of this vast river system, rises in the Snowy Mountains, from which its three principal sources, the Hume, the Tooma, and the Indi descend. The first two of these streams rise on the northern and western slopes of Mount Kosciusko; the Indi, which is really the main river, has a longer course, rising in a gully near the Pilot Mountain, at an elevation of 5,000 feet above the sea. From the confluence of these rivers the Murray rapidly descends towards the plains below Albury, where it is only 490 feet above sea level, with a course of 1,439 miles still to run. From Albury

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downwards the river receives many tributaries on both banks, those from New South Wales being the most important. Above Albury the tributaries are for the most part mountain torrents, carrying to the main stream the melted snows of the Australian Alps. In its lower course, however, the Murray is augmented, through the Murrumbidgee and the Darling, by the waters of secondary systems as important as its own.

Before being joined by the Murrumbidgee, the Murray receives, from a series of ana-branches, the drainage of a large portion of the country lying between the two main streams. The Billabong Creek runs almost through the centre of the plain spreading between the Murray and Murrumbidgee; in the middle of its course it communicates with the latter river, through Colombo and Yanko Creeks, whilst on the south it feeds the Murray by the channel of the Edward River. The Edward itself is an important stream. With the Wakool, Tupal, and Bullatale Creeks, and many other smaller and less important water-courses, it forms a fluvial system, interlacing the whole country from Tocumwal to the Murrumbidgee junction, which has justly been named Riverina. The Edward and Wakool are together navigable for over 400 miles, as far as the important town of Deniliquin. From its farthest source at the foot of the Pilot Mountain to the town of Albury, the Murray has a length of 280 miles; thence to the Darling River junction its course is 852 miles; and from that point to the sea, below Lake Alexandrina, it is 587 miles in length. The river has thus a total course of 1,719 miles, of which 1,250 are within the state of New South Wales. It has been navigated as far as the Ournie gold-field, about 150 miles above Albury, and 1,590 miles from its mouth.

The Murrumbidgee has its source at the foot of a hill overlooking the Coolamon Plains, at a height of nearly 5,000 feet above the sea. Its course first shapes itself southward, but near the town of Cooma it takes a sharp curve and runs in a northerly direction until it approaches Yass. Here it curves again, trending to the west in a line parallel to the Murray; but turning south-west on receiving the Lachlan, it finally joins the main river after a course of 1,350 miles. The area drained by the Murrumbidgee is estimated at 15,400 square miles. In the upper part of its course it receives from both sides numerous rivers and creeks, the most important of which are the Umaralla, Molonglo, and Yass Rivers on its right, and the Goodradigbee and Tumut Rivers on its left bank. All these flow through mountainous country over a series of plateaux, which from the Coolamon and Coorangorambula Plains to the plains round Gundagai and Wagga successively diminish in height from 5,000 feet to 720 feet and 607 feet above the sea.

The upper valleys, both of the Murrumbidgee and the Murray, are of similar physical aspect. Both rivers are snow-fed, the Murray to a greater extent than its tributary, owing to the higher elevation of the mountains and plateaux from which it descends. In the lower basins they are also similar in character, and the plains which they drain are

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amongst the most fertile in the state. With an intelligent system of water conservation and irrigation, the lower valleys of these rivers would support a large population of agriculturists on land hitherto devoted entirely to sheep pasturing.

The chief tributary of the Murrumbidgee is the Lachlan, rising in the Main Dividing Range, where its principal feeders also have their source. These are the Boorowa, Crookwell, Abercrombie, and Belubula—all rapid streams, occasionally swollen by melted snow from the table-land. After receiving the Boorowa, the Lachlan flows to the Murrumbidgee, through 500 miles of plain country, without receiving any tributary of a permanent character. The water-courses which carry off the surplus water from the rich plains on each side of the river, only reach it in time of flood. The total length of the stream is 700 miles, and its basin has an area of 13,500 square miles. The country drained by the Lachlan is similar in most respects to that of the Murray and Murrumbidgee, and with regular rainfall or irrigation the light red soil and sandy loam of its lower valley would yield abundant returns to the farmer. The lines of demarcation between the Lachlan basin and that of the Murrumbidgee on the south and of the Darling on the north-west, are hardly perceptible on the ground, so flat is the country through which these great rivers flow.

Of all the tributaries of the Murray, the Darling drains the largest area, extending as it does over the greater portion of the western district of New South Wales, and embracing nearly all Southern Queensland. From its confluence with the Murray at Wentworth up to its junction with the Culgoa a few miles above Bourke, the Darling receives only two tributaries, the Paroo and the Warrego, both intermittent, though of vast size in times of flood. For over 1,000 miles this great river holds its solitary course, Nile-like, feeding the thirsty plains of the south with water falling many hundred miles distant on the downs of Queensland. The course of the river is tortuous in the extreme: in many places a narrow neck of land, a mile or two across, separates parts of the river 20 miles distant if the stream were followed. The Darling presents the phenomenon, not uncommon in Australian rivers, of banks much higher than the plain behind; indeed, the river bed itself, though from 30 to 40 feet beneath the bank, is in some places but little below the general level of the country. Successive floods have added to the height of the banks, and have raised the bed of the stream correspondingly.

The Darling has no source under that name, which applies only to that part of the river as far as the Bogan junction. Above this point it takes the name of the Barwon, until its confluence with the Gwydir; then it is known as the Macintyre, and afterwards the main branch receives the name of the Dumaresq. The last-named stream has its source in the Dividing Range, on the summit of the table-land at the extreme north-east of the state, not far from the head of the Richmond. The Dumaresq, Macintyre, and Barwon form, however, what might

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really be called the Upper Darling, and this appellation would be geographically accurate. The variety of names by which, not only the Darling, but many other Australian rivers are known, is due to the fact that they were discovered in sections, the identity of which was not established until years afterwards, and the sectional names have survived.

The Darling receives, in its upper course, many tributaries, which drain the southern portion of Queensland, but these rivers only flow for a short part of their courses in New South Wales. Chief among them are the Mooni, Narran, Bokhara, Culgoa, Warrego, and Paroo. The principal affluents of the Darling within the boundaries of New South Wales are on the left bank. The Gwydir, Namoi, Castlereagh, Macquarie, and Bogan are the most important. These streams are all of considerable length and similar in character; their upper valleys are on the tablelands, and their lower courses lie through alluvial plains and good pastoral country. The Darling is navigable, in times of freshets, as far as the township of Walgett, 1,758 miles from its confluence with the Murray; thence to the sea the distance is 587 miles, making a total length of navigable water from Walgett to the sea of 2,345 miles, and it therefore ranks high amongst the rivers of the world, as estimated by navigable length. Unfortunately, however, its upper course is open only during part of the year.

If the fluvial system of the Murray and Darling and their principal tributaries be considered in the light of the facilities it affords for water carriage, its value will appear not inconsiderable. The Darling River may be made available for navigation for 1,758 miles, from Wentworth to Walgett; the Murrumbidgee and Lachlan combined have 900 miles; and the Murray, from Ournie gold-field to the point where it enters the territory of South Australia, has a length of 1,120 miles. If to this be added the navigable length of the Wakool and Edward, the total distance of river which could be navigated reaches nearly 4,200 miles in the western district alone—a length more than 50 per cent. greater than that of the railways of the state.

Here and there along the course of the western rivers are found lakes, sometimes of considerable dimensions. These lakes are in reality shallow depressions, receiving water from the overflow of the rivers in times of flood, and in return feeding them when the floods have subsided. Lake Urana is the most important in the Murray and Murrumbidgee basin, and Lakes Cowal, Cudgellico, and Waljeers, in that of the Lachlan. Along the Darling are Lakes Poopelloe and Gunyulka on the left bank, and Laidley's Ponds and Lakes Pammaroo, Tandou, and Cawndilla on the right, near Menindie. On the South Australian frontier are Lake Victoria, formed by the overflow of the Murray, and others of less importance. The area of these lakes is undefined, as they vary in size according to the rainfall, sometimes covering a vast extent of country, and at other times being reduced to the proportions of mere waterholes, whilst in seasons of great drought they are absolutely dry.

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# CLIMATE.

IT is accepted as an ascertained fact that the temperature of lands in the southern hemisphere is lower than that of countries situated in corresponding latitudes north of the equator. To this general law New South Wales is no exception. The researches of the Government Astronomer of the state conclusively confirm this, and show, from the records of temperature, extending over many years, that the climate of New South Wales is one of the most temperate and uniform anywhere experienced.

Just as the country is divided naturally into three distinct geographical regions, so it is separated into the same climatic divisions, each of which has its characteristic features. The coastal region extends from 28° to 37° south latitude, and if the temperature accorded with that of similar latitudes in the northern hemisphere, Casino and Grafton would resemble the country bordering on the Gulf of Suez, in the Red Sea; Delhi, in India; Ningpo, in China; and New Orleans, in the United States of America. Such, however, is not the case. Casino has a mean temperature of 67·6°, only 2·0° more than that of Messina, in Sicily, which lies more than 9° farther from the equator. Eden, which is situated at the extreme south of the state in latitude 37°, has a mean temperature of 60·2°, which is practically the same as that of Nice and Rome—places respectively 466 and 339 miles farther removed from the equator. And not only is the climate of the coastal region milder than the corresponding latitudes in the northern hemisphere, but the range of temperature is not so great. This is a very important factor in estimating the healthiness of a country.

As regards Sydney, situated as it is midway between the extreme points of the state, in latitude 33° 51′ south, the same truth is apparent. Its mean temperature is 63°, and corresponds with that of Barcelona, the great maritime city of Spain, and of Toulon in France, the former being in latitude 41° 22′, and the latter, in 43° 7′ N.; while the range is only 17° Fahrenheit, calculated over a period of 42 years, the mean summer temperature being slightly under 71°, and that of winter 54°. At Naples, where the mean temperature for the year is about the same as at Sydney, the summer temperature reaches a mean of 74·4°, and the mean of winter is 47·6°, with a range of 27°. Thus, the summer is warmer and the winter much colder than at Sydney. The highest temperature in the shade ever experienced in Sydney was in 1896, when 108·5° in the shade were registered; and the lowest winter temperature recorded was 35·9°, giving a range of 72·6°. At Naples the range has been as great as 81°, the winter minimum falling sometimes below the freezing point.

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Taking the coast generally, the difference between the mean summer and mean winter temperature may be set down as averaging not more than 24°—a range so small as to be but rarely found elsewhere. The famed resorts on the Mediterranean sea-board bear no comparison with the Pacific slope of New South Wales either for natural salubrity or for the comparative mildness of the summer and winter, while the epidemics and pestilences which have devastated those regions of ancient civilisation have never made their appearance on these shores.

Passing from the coast to the table-land, a distinct climatic region is entered. On the high southern plateau, at an elevation of 4,640 feet, stands the town of Kiandra, having a mean summer temperature of 56·4°, and a winter temperature of 32·5°, corresponding with that of Dunfermline, in Scotland, in latitude 56° 5′ N., while Kiandra is in 35° 52′ S. Cooma, in the centre of the Monaro plains, at an elevation of 2,637 feet above sea-level, enjoys a summer as mild as either London or Paris, while its winters are far less severe. On the New England table-land, the climate of Armidale and other towns may be considered as nearly perfect as can be found. The yearly average temperature is 56·5°; while the mean summer temperature only reaches 67·7°, and the winter temperature falls to 44·3°, a range approximating closely to that of the famous health resorts in the south of France.

The climatic conditions of the western districts of the state are entirely different from those of the other two regions, and have been often cited as disagreeable. Compared with the equable temperature of the coastal district or the table-land, there may appear some justification for such a reputation, but only by way of comparison. The climate of the great plains, in spite of the heat of part of the summer, is very healthy, and an inspection of the death-rates, of both children and grown persons, which are given elsewhere, amply bears out this view. The town of Bourke may be taken as an example. Seated in the midst of the great plain of the interior, it illustrates peculiarly well the defects, as well as the excellences, of the climate of the whole region. Bourke has exactly the same latitude as Cairo, yet its summer temperature is 1·5° less than that of the Egyptian city. New Orleans also lies on the same parallel, but the American city is 4° hotter in summer. As regards winter temperature, Bourke leaves little to be desired. The mean winter reading of the thermometer is 54·3°, and accompanied as this is by clear skies and an absence of snow, the season is both refreshing and enjoyable. The great heat experienced on occasional days in summer, when the thermometer reads considerably over 100° in the shade, is not accompanied by that moisture in the air which at the sea-coast would make a less degree of heat almost unbearable. The four seasons of the year in New South Wales are:—Spring—months of September, October, November; Summer—months of December, January, February; Autumn—months of March, April, May; Winter—months of June, July, August.

Of the three great meteorological divisions into which New South Wales naturally falls, the coastal district, ranging from 30 to 150 miles

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in width, embraces an area of 38,200 square miles; the table-lands, varying in width from 120 to 200 miles, with an area of 84,900 square miles; and the western district, consisting of the western plains and covering the area between the table-lands and the border of South Australia, has an area of 187,600 square miles. The last-named might, from its size and variable rainfall, be split into two districts with the 146° of east longitude as an arbitrary division. The coastal district is plentifully watered by rivers from the mountains, and the rainfall is much increased by winds blowing across from the sea. This district has an average rainfall of 41·89 inches, but there are several stations close to the ocean which are subject to exceptional and varying rainfall. Amongst these may be mentioned Port Macquarie and the Clarence Heads, the first having a mean annual fall of 64·29, and the latter of 58·28 inches; while at Newcastle and Sydney the respective figures are 48·62 and 50·06 inches; and at Eden, almost the southern extremity of the state, the average fall is only 35·52 inches. On the table-lands the rainfall averages 32·62 inches; there is, however, a small area at the southern portion of the table-lands where the high average of 64·09 inches is experienced. The highest land in Australia is on this plateau, and here rise Mount Kosciusko and Mount Townsend, over 7,000 feet above sea-level, on the sides of which snow may always be found. West of the table-lands the amount of rainfall decreases as the distance from the Pacific increases, and in a large area west of the Darling the average annual rainfall is less than 10 inches. For the whole area of the western division the average does not exceed 19·80 inches. The mean rainfall of the state for the last thirty years was about 25 inches, but this figure can hardly be taken as conveying any meaning, except, perhaps, showing the greater part of the state to be favoured with but a slight rainfall. A comparison between New South Wales and England as to the quantity of rain falling within an hour shows that the rain is heavier in this state, and a greater amount is recorded within a specified time.

The following table shows the average rainfall at some of the principal stations, which are arranged in the order of their latitude, in each of the great divisions :—

| Station. | Least distance from the East Coast in miles. | Mean annual Rainfall in inches. | Station. | Least distance from the East Coast in miles. | Mean annual Rainfall in inches. |
|---|---|---|---|---|---|
| **Coastal District—Area, 38,200 square miles.** | | | | | |
| Casino ..... | 28 | 45·73 | Muswellbrook ..... | 68 | 24·03 |
| Lismore ..... | 13 | 58·04 | Singleton ..... ..... | 40 | 31·29 |
| Clarence Heads ..... | 0 | 58·28 | Jerry's Plains ..... | 63 | 24·27 |
| Grafton ..... ... | 22 | 39·24 | Morpeth ..... | 15 | 42·81 |
| Port Macquarie .. ... | 0 | 64·29 | West Maitland ... | 18 | 34·96 |
| Taree..... | 10 | 50·16 | Port Stephens ..... | 0 | 57·75 |
| Scone ..... | 78 | 24·27 | Newcastle ..... | 1 | 48·62 |



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| Station. | Least distance from the East Coast in miles. | Mean annual Rainfall in inches. | Station. | Least distance from the East Coast in miles. | Mean annual Rainfall in inches. |
|---|---|---|---|---|---|
| **Coastal District—*continued.*** | | | | | |
| Pitt Town | 26 | 35·24 | Bulli | 0 | 50·95 |
| Windsor | 30 | 33·02 | Wollongong | 0 | 44·11 |
| Emu | 36 | 32·68 | Nowra | 6 | 40·93 |
| Parramatta | 16 | 38·64 | Jervis Bay | 0 | 60·27 |
| South Head | 0 | 49·90 | Moruya Heads | 0 | 38·52 |
| Sydney | 5 | 50·06 | Bodalla | 7 | 39·13 |
| Liverpool | 18 | 38·73 | Bega | 8 | 34·19 |
| Picton | 22 | 31·19 | Eden | 0 | 35·52 |
| **Table-lands—Area, 84,900 square miles.** | | | | | |
| Tenterfield | 80 | 34·06 | Armidale | 81 | 32·25 |
| Inverell | 124 | 31·29 | Eversleigh | 78 | 32·28 |
| Glen Innes | 90 | 33·41 | Walcha | 83 | 30·41 |
| Bundarra | 113 | 29·60 | Goonoo Goonoo | 110 | 26·71 |
| Quirindi | 115 | 28·69 | Young | 140 | 26·32 |
| Murrurundi | 94 | 32·66 | Mittagong | 27 | 40·79 |
| Cassilis | 120 | 24·68 | Moss Vale | 31 | 40·69 |
| Mudgee | 121 | 26·96 | Murrumburrah | 126 | 25·42 |
| Orange | 124 | 38·32 | Crookwell | 81 | 32·79 |
| Bathurst | 96 | 24·31 | Goulburn | 54 | 26·49 |
| Forbes | 176 | 20·55 | Yass | 92 | 25·65 |
| Kurrajong Heights | 35 | 52·21 | Lake George | 53 | 27·86 |
| Mount Victoria | 61 | 38·52 | Queanbeyan | 60 | 23·78 |
| Katoomba | 58 | 62·89 | Kyamba | 134 | 30·45 |
| Carcoar | 111 | 30·26 | Kiandra | 88 | 64·09 |
| Springwood | 42 | 43·52 | Cooma | 52 | 19·98 |
| Cowra | 126 | 27·00 | Bombala | 37 | 24·27 |
| **Western District, East of 146° East Longitude—Area, 87,800 square miles.** | | | | | |
| Moree | 204 | 24·27 | Nyngan | 269 | 19·94 |
| Warialda | 162 | 29·13 | Cannonbar | 272 | 18·80 |
| Bingara | 153 | 31·20 | Dubbo | 177 | 23·06 |
| Brewarrina | 345 | 17·39 | Condobolin | 227 | 18·77 |
| Walgett | 286 | 19·28 | Marsdens | 187 | 19·96 |
| Narrabri | 193 | 26·36 | Wagga Wagga | 158 | 22·50 |
| Gunnedah | 156 | 26·15 | Urana | 213 | 17·45 |
| Coonabarabran | 185 | 30·56 | Albury | 175 | 28·75 |
| **Western District, West of 146° East Longitude—Area, 99,800 square miles.** | | | | | |
| Milparinka | 605 | 8·83 | Wentworth | 478 | 11·91 |
| Bourke | 386 | 16·21 | Hay | 309 | 14·64 |
| Wilcannia | 473 | 10·82 | Euston | 422 | 12·38 |
| Cobar | 345 | 15·87 | Deniliquin | 287 | 16·73 |
| Mount Hope | 296 | 16·21 | Moama | 290 | 17·52 |

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From the standpoint of health, it is fortunate for the country that dryness is one of its characteristics; otherwise, instead of being the abode of health, the interior of the state would, with abundant rains, have become an impenetrable jungle, the lurking-place of those malarial fevers which devastate so many fair regions of the Old World and America. New South Wales may, therefore, be compared favourably with any part of the world; and, taking into consideration the comparatively low latitudes in which it is situated, it offers a most remarkable variety of temperate climates. From Kiandra, on the highest part of the Great Dividing Range, to Bourke, on the great interior plain, the climate may be compared with that of the region of Europe extending from Edinburgh to Messina, but more generally resembling that of southern France and Italy. It may, therefore, be regarded as peculiarly fitted for the habitation of people of European race, embracing, as it does, within its limits, the climatic conditions under which the most advanced races of the world have prospered. The following tables, showing the average meteorological conditions of the places given in the preceding table, fairly represent the whole state :—

| Station. | South latitude. | East longitude. | Altitude. | Mean. Yearly temperature in shade. | Mean. Summer temperature in shade. | Mean. Winter temperature in shade. | Mean. Daily range of thermometer in shade. | Highest reading of thermometer in shade. | Lowest reading of thermometer in shade. |
|---|---|---|---|---|---|---|---|---|---|
| **Coastal District.** | | | | | | | | | |
| | ° ′ | ° ′ | feet. | ° | ° | ° | ° | ° | ° |
| Casino | 28·50 | 153·00 | 82 | 67·6 | 76·6 | 57·0 | 25·3 | 116·4 | 24·6 |
| Lismore | 28·50 | 153·21 | 52 | 69·7 | 78·1 | 59·6 | 21·5 | 108·2 | 28·2 |
| Clarence Heads | 29·28 | 153·21 | 122 | 69·0 | 76·4 | 60·6 | 15·6 | 104·8 | 36·4 |
| Grafton | 29·43 | 152·56 | 40 | 68·4 | 77·1 | 57·9 | 26·3 | 118·0 | 20·9 |
| Port Macquarie | 31·25 | 152·54 | 49 | 64·0 | 71·9 | 55·1 | 16·8 | 98·2 | 27·9 |
| Taree | 31·58 | 152·29 | 30* | 65·2 | 74·3 | 54;6 | 19·4 | 112·6 | 24·0 |
| Scone | 32·04 | 150·53 | 680 | 62·7 | 74·7 | 49·8 | 22·5 | 114·2 | 22·2 |
| Muswellbrook | 32·17 | 150·53 | 475 | 64·1 | 74·6 | 51·3 | 25·3 | 117·6 | 20·0 |
| Singleton | 32·34 | 151·09 | 135 | 64·8 | 76·2 | 54·2 | 19·7 | 110·8 | 22·0 |
| Jerry's Plains | 32·35 | 150·55 | 150* | 66·7 | 76·9 | 54·6 | 22·3 | 109·9 | 30·0 |
| Morpeth | 32·46 | 151·37 | 20 | 63·0 | 72·8 | 52·1 | 20·0 | 102·7 | 26·0 |
| West Maitland | 32·47 | 151·35 | 40 | 64·1 | 74·8 | 52·7 | 19·5 | 109·9 | 24·0 |
| Port Stephens | 32·49 | 152·09 | 30* | 63·2 | 71·6 | 54·2 | 17·9 | 104·2 | 30·2 |
| Newcastle | 32·55 | 151·50 | 34 | 64·6 | 72·4 | 55·5 | 16·2 | 107·5 | 31·3 |
| Pitt Town | 33·34 | 150·53 | 40* | 64·0 | 74·6 | 52·2 | 20·2 | 113·0 | 27·2 |
| Windsor | 33·36 | 150·49 | 58 | 64·5 | 74·6 | 52·9 | 26·1 | 113·9 | 18·8 |
| Emu | 33·46 | 150·40 | 87 | 62·8 | 73·4 | 54·2 | 16·3 | 107·6 | 26·5 |
| Parramatta | 33·49 | 151·02 | 49 | 62·0 | 70·5 | 52·3 | 20·8 | 104·2 | 20·9 |
| Sydney | 33·51 | 151·13 | 146 | 63·0 | 70·8 | 53·9 | 13·5 | 108·5 | 35·9 |
| Liverpool | 33·58 | 150·59 | 50 | 59·9 | 70·5 | 48·9 | 20·5 | 111·3 | 22·0 |
| Picton | 34·09 | 150·36 | 549 | 59·6 | 69·8 | 48·2 | 22·9 | 111·7 | 19·7 |
| Bulli | 34·18 | 150·58 | 54 | 63·0 | 69·1 | 55·8 | 18·7 | 99·7 | 34·6 |

* Approximate heights.

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| Station. | South latitude. | East longitude. | Altitude. | Mean. | | | | Highest reading of thermometer in shade. | Lowest reading of thermometer in shade. |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Yearly temperature in shade. | Summer temperature in shade. | Winter temperature in shade. | Daily range of thermometer in shade. | | |
| **Coastal District—*continued.*** | | | | | | | | | |
| | ° ′ | ° ′ | feet. | ° | ° | ° | ° | ° | ° |
| Wollongong | 34·25 | 150·56 | 54 | 62·8 | 70·0 | 54·8 | 17·2 | 113·4 | 31·9 |
| Nowra | 34·55 | 150·38 | 30 | 62·8 | 70·3 | 54·1 | 21·6 | 110·3 | 31·6 |
| Cape St. George | 35·12 | 150·45 | 175 | 61·8 | 69·1 | 53·9 | 14·8 | 105·2 | 25·5 |
| Moruya Heads | 35·53 | 150·06 | 50 | 61·4 | 68·4 | 53·5 | 19·0 | 113·8 | 31·1 |
| Bodalla | 36·04 | 149·59 | 40 | 60·0 | 68·8 | 49·9 | 25·8 | 114·1 | 18·6 |
| Bega | 36·38 | 149·53 | 50* | 60·0 | 69·4 | 49·5 | 23·9 | 115·6 | 16·6 |
| Eden | 37·00 | 149·59 | 107 | 60·2 | 67·9 | 51·9 | 14·0 | 106·0 | 29·3 |
| **Table-lands.** | | | | | | | | | |
| Tenterfield | 29·05 | 152·04 | 2,827 | 59·3 | 69·9 | 47·2 | 25·5 | 107·1 | 12·0 |
| Inverell | 29·48 | 151·10 | 1,980 | 60·1 | 73·0 | 46·1 | 23·5 | 108·6 | 13·4 |
| Glen Innes | 29·48 | 151·44 | 3,518 | 58·3 | 69·1 | 45·6 | 24·8 | 107·3 | 14·4 |
| Bundarra | 30·14 | 151·10 | 2,000* | 60·7 | 70·6 | 48·6 | 23·3 | 96·5 | 17·5 |
| Armidale | 30·32 | 151·38 | 3,333 | 56·5 | 67·7 | 44·3 | 24·8 | 105·2 | 13·9 |
| Eversleigh | 30·34 | 151·40 | 3,576 | 55·5 | 67·1 | 42·9 | 24·3 | 102·3 | 13·0 |
| Walcha | 31·02 | 151·35 | 3,386 | 53·8 | 65·0 | 41·4 | 23·7 | 104·1 | 10·0 |
| Goonoo Goonoo | 31·20 | 150·54 | 1,550 | 61·7 | 74·2 | 48·2 | 26·1 | 105·0 | 19·0 |
| Quirindi | 31·32 | 150·41 | 1,278 | 64·6 | 76·8 | 52·4 | 26·2 | 108·6 | 17·0 |
| Murrurundi | 31·46 | 150·51 | 1,545 | 60·6 | 72·4 | 47·9 | 18·4 | 107·3 | 19·0 |
| Cassilis | 32·00 | 150·00 | 1,500 | 61·2 | 74·8 | 47·2 | 19·9 | 111·7 | 20·8 |
| Mudgee | 32·35 | 149·35 | 1,635 | 62·2 | 74·3 | 49·4 | 23·1 | 114·4 | 17·6 |
| Orange | 33·18 | 149·09 | 2,843 | 54·9 | 67·4 | 42·4 | 21·6 | 100·2 | 16·0 |
| Bathurst | 33·24 | 149·37 | 2,200 | 57·1 | 69·9 | 44·3 | 28·5 | 112·5 | 13·0 |
| Forbes | 33·27 | 148·05 | 789 | 63·1 | 77·0 | 48·9 | 24·5 | 118·4 | 24·0 |
| Kurrajong Heights | 33·33 | 150·45 | 1,870 | 53·3 | 61·6 | 44·0 | 13·4 | 99·5 | 25·5 |
| Mount Victoria | 33·36 | 150·15 | 3,490 | 54·3 | 65·2 | 42·5 | 20·0 | 106·0 | 11·9 |
| Katoomba | 33·38 | 150·18 | 3,349 | 53·3 | 62·7 | 42·5 | 14·1 | 100·0 | 25·9 |
| Carcoar | 33·41 | 149·14 | 2,380 | 55·6 | 68·3 | 42·6 | 21·2 | 99·4 | 15·4 |
| Springwood | 33·43 | 150·34 | 1,216 | 61·4 | 70·7 | 52·1 | 17·2 | 104·8 | 32·9 |
| Woodford | 33·44 | 150·24 | 2,191 | 57·6 | 66·1 | 47·9 | ... | 93·4 | 34·4 |
| Cowra | 33·54 | 148·45 | 987 | 63·3 | 77·8 | 48·7 | 22·2 | 116·1 | 21·6 |
| Young | 34·18 | 148·21 | 1,416 | 61·3 | 73·8 | 48·7 | 28·5 | 113·4 | 20·9 |
| Mittagong | 34·27 | 150·30 | 2,069 | 56·4 | 67·1 | 45·2 | 18·0 | 104·6 | 21·6 |
| Moss Vale | 34·32 | 150·23 | 2,205 | 55·7 | 66·1 | 44·3 | 17·5 | 103·7 | 18·9 |
| Murrumburrah | 34·32 | 148·23 | 1,268 | 62·0 | 74·4 | 50·4 | 26·5 | 108·1 | 23·4 |
| Crookwell | 34·27 | 149·30 | 2,000* | 52·4 | 64·5 | 40·1 | 23·4 | 98·8 | 12·1 |
| Goulburn | 34·45 | 149·45 | 2,129 | 56·6 | 68·0 | 44·3 | 25·7 | 111·0 | 13·0 |
| Yass | 34·52 | 148·56 | 1,657 | 58·8 | 70·8 | 46·9 | 20·6 | 105·0 | 21·5 |
| Lake George | 35·12 | 149·25 | 2,267 | 57·4 | 69·0 | 44·5 | 21·2 | 105·0 | 21·3 |
| Queanbeyan | 35·20 | 149·15 | 1,899 | 56·6 | 70·0 | 43·0 | 23·2 | 109·4 | 15·8 |

* Approximate heights.

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| Station. | South latitude. | East longitude. | Altitude. | Mean. Yearly temperature in shade. | Mean. Summer temperature in shade. | Mean. Winter temperature in shade. | Mean. Daily range of thermometer in shade. | Highest reading of thermometer in shade. | Lowest reading of thermometer in shade. |
|---|---|---|---|---|---|---|---|---|---|
| **Table-lands—*continued*.** | | | | | | | | | |
| | ° ′ | ° ′ | feet. | ° | ° | ° | ° | ° | ° |
| Kyamba | 35·29 | 147·44 | 750 | 59·0 | 73·0 | 45·4 | ... | 116·0 | 16·0 |
| Kiandra | 35·52 | 148·32 | 4,640 | 44·6 | 56·4 | 32·5 | 25·8 | 102·3 | † |
| Cooma | 36·12 | 149·09 | 2,637 | 54·2 | 65·9 | 41·7 | 28·6 | 107·0 | 11·0 |
| Bombala | 36·52 | 149·10 | 3,000 | 54·9 | 65·5 | 43·8 | 27·6 | 104·1 | 17·1 |
| **Western District, East of 146° East Longitude.** | | | | | | | | | |
| Moree | 29·29 | 149·53 | 680 | 69·0 | 81·0 | 55·2 | 26·6 | 117·3 | 18·0 |
| Warialda | 29·35 | 150·37 | 1,106 | 63·2 | 75·8 | 49·7 | 27·1 | 117·7 | 16·2 |
| Bingara | 29·56 | 150·37 | 1,200* | 63·8 | 76·5 | 49·9 | 26·8 | 116·6 | 15·5 |
| Brewarrina | 29·58 | 146·54 | 430* | 69·1 | 84·3 | 52·9 | 27·1 | 122·3 | 24·8 |
| Walgett | 30·02 | 148·10 | 522 | 68·3 | 82·6 | 53·2 | 25·4 | 118·4 | 26·7 |
| Narrabri | 30·20 | 149·46 | 697 | 66·8 | 81·1 | 51·8 | 27·9 | 118·9 | 18·4 |
| Gunnedah | 31·01 | 150·15 | 874 | 66·5 | 79·5 | 52·0 | 26·0 | 120·6 | 16·7 |
| Coonabarabran | 31·16 | 149·18 | 1,710 | 60·0 | 73·0 | 46·7 | 33·0 | 111·5 | 11·4 |
| Cannonbar | 31·22 | 147·23 | 520 | 67·6 | 80·4 | 53·8 | 27·7 | 118·9 | 20·7 |
| Dubbo | 32·18 | 148·35 | 863 | 63·3 | 77·0 | 49·2 | 26·0 | 113·4 | 17·[illegible] |
| Condobolin | 33·12 | 147·14 | 700* | 65·4 | 78·7 | 51·3 | 26·1 | 119·5 | 20·[illegible] |
| Maredens | 33·52 | 147·38 | 700* | 65·6 | 79·3 | 51·3 | 22·8 | 117·7 | 21·0 |
| Wagga Wagga | 35·07 | 147·27 | 615 | 61·3 | 75·5 | 47·2 | 28·2 | 117·6 | 18·4 |
| Urana | 35·20 | 146·20 | 400 | 62·5 | 76·0 | 48·8 | 23·6 | 116·5 | 18·4 |
| Albury | 36·06 | 147·00 | 531 | 60·6 | 74·4 | 47·2 | 28·1 | 117·3 | 20·2 |
| **Western District, West of 146° East Longitude.** | | | | | | | | | |
| Milparinka | 29·45 | 141·52 | 1,000* | 68·3 | 82·7 | 53·6 | 28·0 | 119·8 | 25·3 |
| Bourke | 30·03 | 145·58 | 350 | 69·5 | 83·9 | 54·3 | 27·2 | 127·0 | 25·3 |
| Wilcannia | 31·31 | 143·23 | 246 | 66·4 | 80·1 | 52·6 | 29·1 | 120·8 | 21·8 |
| Cobar | 31·32 | 145·50 | 803 | 66·6 | 80·5 | 51·7 | 29·5 | 118·7 | 25·0 |
| Mount Hope | 32·56 | 145·55 | 600* | 65·1 | 79·0 | 50·7 | 25·3 | 118·6 | 24·6 |
| Wentworth | 34·08 | 141·58 | 144 | 64·0 | 76·8 | 51·2 | 26·4 | 119·0 | 25·0 |
| Hay | 34·30 | 144·56 | 305 | 63·5 | 76·2 | 50·6 | 28·3 | 117·3 | 21·1 |
| Easton | 34·32 | 142·51 | 188* | 64·2 | 77·1 | 51·1 | 33·8 | 124·8 | 17·1 |
| Deniliquin | 35·32 | 145·02 | 320 | 61·8 | 74·6 | 48·8 | 30·9 | 121·1 | 18·0 |
| Moama | 36·05 | 144·50 | 320 | 62·3 | 75·6 | 48·1 | 28·6 | 117·0 | 24·0 |

* Approximate heights. † Kiandra—Lowest, 20·0° below zero.

The following table shows the average monthly meteorological conditions of Sydney during the forty-two years ended 1900. With regard to the rainfall it may be mentioned that although consecutive months

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may pass without sufficient rain falling for water supply no complete month has been known in which rainfall was not registered :—

| Month. | Atmospheric pressure. | | Temperature. | | | | Rainfall. | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Average reading of standard barometer at 9 a.m., corrected to 32° Fahrenheit and to mean sea-level. | Average hourly reading of self-registering electric barograph, corrected to 32° Fahrenheit, but not to sea-level. | Mean standard (in shade). | Average reading of maximum thermometer (in shade). | Average reading of minimum thermometer (in shade). | Mean of sea-water (3 feet below surface). | Average monthly. | Greatest monthly. | Least monthly. | Average number of rainy days. |
| | in. | in. | ° | ° | ° | ° | in. | in. | in. | days. |
| January | 29·953 | 29·768 | 71·6 | 78·2 | 64·9 | 71·3 | 3·607 | 10·489 | 0·419 | 14 |
| February | 30·001 | 29·812 | 71·0 | 77·1 | 64·8 | 71·8 | 5·164 | 18·556 | 0·401 | 14 |
| March | 30·090 | 29·893 | 69·3 | 75·4 | 63·1 | 70·9 | 5·218 | 18·700 | 0·419 | 15 |
| April | 30·141 | 29·942 | 64·6 | 70·8 | 58·2 | 68·3 | 5·514 | 24·490 | 0·150 | 13 |
| May | 30·139 | 29·938 | 58·4 | 64·8 | 51·9 | 64·2 | 5·429 | 20·868 | 0·214 | 16 |
| June | 30·116 | 29·918 | 54·4 | 60·5 | 48·3 | 59·9 | 5·926 | 16·296 | 0·541 | 13 |
| July | 30·143 | 29·943 | 52·4 | 58·9 | 45·7 | 57·3 | 4·490 | 13·208 | 0·120 | 12 |
| August | 30·128 | 29·929 | 54·9 | 62·3 | 47·6 | 57·6 | 3·112 | 14·886 | 0·040 | 11 |
| September | 30·079 | 29·881 | 58·8 | 66·2 | 51·3 | 60·3 | 3·014 | 14·045 | 0·083 | 12 |
| October | 30·027 | 29·832 | 63·5 | 71·2 | 55·9 | 63·3 | 2·800 | 8·645 | 0·210 | 13 |
| November | 29·988 | 29·811 | 66·8 | 74·1 | 59·5 | 66·7 | 3·288 | 9·880 | 0·200 | 13 |
| December | 29·945 | 29·756 | 69·9 | 77·1 | 62·8 | 69·4 | 2·547 | 7·804 | 0·453 | 13 |
| Yearly averages, totals, and extremes | 30·062 | 29·866 | 3·0 | 69·7 | 56·2 | 65·1 | 50·059 | 24·490 | 0·040 | 159 |

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# GEOLOGICAL FORMATION.

THE geology of the state has been ably treated by various learned scientists, and this work has been added to by the late Mr. C. S. Wilkinson, Government Geologist, and by Mr. E. F. Pittman, his successor in that office. To the Rev. W. B. Clarke we are indebted for the first systematic classification of the various sedimentary formations found in New South Wales. The original classification, however, has been somewhat modified, and the rocks, as they are now known, are classified as follow :—

- *Cainozoic*
  - Post Tertiary
    - Recent.
    - Pleistocene.
  - Tertiary
    - Pliocene.
    - Miocene.
    - Eocene.
- *Mesozoic*
  - Cretaceous
    - Upper Cretaceous—Desert Sandstone.
    - Lower Cretaceous—Rolling Downs Formation.
  - Jurassic.
  - Triassic—Hawkesbury Series
    - Wianamatta Shales.
    - Hawkesbury Sandstones
    - Narrabeen Shales.
- *Palæozoic*
  - Permo-Carboniferous
    - Upper Coal Measures.
    - Dempsey Beds.
    - Middle Coal Measures.
    - Upper Marine Series.
    - Lower Coal Measures.
    - Lower Marine Series.
  - Carboniferous.
  - Devonian.
  - Upper Silurian.
  - Lower Silurian.

## PALÆOZOIC PERIOD.

*Palæozoic* rocks extend throughout almost the whole eastern portion of the states, principally on the western watershed of the main Dividing Range, in the country where the Murrumbidgee, Lachlan, and Abercrombie Rivers rise. They appear on the eastern watershed, along part of the coast near Bateman's Bay, and, striking inland, are found in the basin of the Clyde, and the upper valley of the Shoalhaven. Slates containing Lower Silurian fossils (graptolites) have been found at three localities in New South Wales—on the border of Victoria, to the south and south-west of Delegete ; at Myall Reefs, near Tomingley ; and at Cadia, near Orange.

The *Upper Silurian* rocks extend as far north as Mudgee, where they are overlain by the Permo-Carboniferous strata of the Hunter Valley, and by the belt of volcanic rocks extending along the Liverpool Range. They reappear farther north, in the upper valley of the Macleay River.

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on the east slope, and in the basin of the Namoi, on the west of the Dividing Range. The Silurian rocks consist of sandstone, slate, and limestone, and exhibit evidence of metamorphism, particularly in the country around Bathurst and Hill End. Limestone beds, of considerable extent, are scattered throughout this formation. These are chiefly composed of crinoids and corals which outcrop prominently in the Wellington District, near Molong and Gulgong, at Tuena, and also in the Murrumbidgee District. In the limestone formations are found magnificent caves, such as the Wellington, Wombeyan, Fish River or Jenolan Caves, Bungonia and Abercrombie, the fame of which has spread even beyond the confines of Australia. The caves at Yarrangobilly, in the Kiandra district, are also very attractive.

The *Devonian* rocks are well seen at Mount Lambie, near Rydal, where the late Mr. C. S. Wilkinson measured a section of strata showing a thickness of not less than 10,000 feet. They also occur in the northern, southern, and western districts.

The *Carboniferous* rocks.—The coal-bearing rocks are of three distinct systems, the first of which is, in all probability, of Lower Carboniferous age. Two seams, the one 5 feet and the other 7 feet in thickness, occur near the top of this system, but the coal in both cases is full of bands, and otherwise too dirty to be of any economic value.

The *Permo-Carboniferous* rocks.—The second system, known as the Permo-Carboniferous, contains many seams of workable coal, which have been developed in both New South Wales and Queensland. Productive coal measures occur in this system in three horizons in New South Wales: the first and lowest of these is the Greta (Stony Creek) series, the second the Tomago (East Maitland) series, and the last and uppermost the Newcastle series. The total thickness of this system and its associated strata at Newcastle is about 11,000 feet, containing a total thickness of about 150 feet of coal, without taking into account seams of less than 3 feet in thickness. Borings at Cremorne, a point on the northern margin of Sydney Harbour, as well as at Holt-Sutherland and Liverpool, have confirmed the anticipations of the Rev. W. B. Clarke and Mr. C. S. Wilkinson as to the continuous extension of at least the upper or Newcastle series of coal-seams between Newcastle on the north and Bulli on the south. Reference to the operations of the Sydney Harbour Collieries Company will be found in the chapter dealing with Mines and Minerals.

### Mesozoic Period.

The *Triassic* rocks.—The third system comprises the Clarence Carboniferous basin, and is of Mesozoic age. Professor David estimates the length of that part of it which contains the principal seams to be about 65 miles from east to west, while its width is about 37 miles from north to south. The most remarkable beds in the Clarence basin are a series of massive whitish sandstones, which were considered by Mr. C. S. Wilkinson to be the equivalents of the Hawkesbury sandstones, and

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were named by him "The Middle Clarence Series," occupying as they do an intermediate position between the upper and lower coal-beds of the basin. None of the seams in this coal-field has as yet been proved to be of commercial value. Professor David estimates the top seam to contain 1 foot 9 inches, out of a total thickness of 5 feet 7½ inches, of coal fit for ordinary consumption, while the second and third seams have not yet been sufficiently tested to allow of a definite opinion being formed of their value. It is probable, however, that even if the seams prove to be of insufficient thickness and purity to yield coal fit for purposes of export, they may supply sufficient coal of fair quality for local requirements, especially if it be washed in suitable machines, such as Lührig's.

The Hawkesbury and Wianamatta series, which overlie the Carboniferous formation of that part of the country through which the Hawkesbury and its principal tributaries flow, belong to the Mesozoic period. It is in this series that the wonderful gorges of the Blue Mountains, and the beautiful harbours of Port Jackson, Port Hacking, and Broken Bay, occur. The rocks consist of grey, purple, and chocolate coloured shales, and yellowish-grey sandstones, and the maximum thickness of the strata is estimated at 1,700 feet. The Triassic rocks form the principal store-house of the artesian water supply of the north-western portion of the state, where they underlie the Rolling Downs or Lower Cretaceous formation. Most of the deeper bores in this arid region obtain the bulk of their supply of water from the Triassic sandstones.

The Wianamatta formation extends round Sydney, and covers a space in the shape of an irregular triangle, the angular points of which rest at Picton on the south, Richmond on the North, and Sydney on the east. The beds are composed of fine sedimentary deposits of argillaceous shales, and are of comparatively little thickness. They appear to have been deposited in hollows worn by denudation out of the sandstone on which they directly rest. The Narrabeen shales, the Hawkesbury sandstones, and the Wianamatta shales do not contain any remarkable seams of coal. All three formations are intersected by igneous dykes, which have also intruded the underlying Permo-carboniferous rocks, and where they have come in contact with the coal-seams, the latter have been converted into coke, sometimes to a thickness of 3 feet or more.

*Jurassic* rocks have been recognised in only one locality in New South Wales, viz., on the Talbragar River, about twenty miles north of Gulgong, where they occupy a denuded hollow in the Hawkesbury sandstones. They are of small extent, and consist of yellowish shales containing numerous fish and plant remains.

The *Cretaceous* formations occupy the north-western part of the state extending from the Barwon westward towards the north-west corner. Water-bearing strata have been reached at depths varying from 89 feet to 2,070 feet, and large quantities of water have been obtained, though principally from the underlying Triassic sandstones. The existence of subterranean water throughout this extensive region has been practically

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demonstrated, and it remains for the settlers to avail themselves of the stores with which nature has charged her reservoirs in the ages that have long since been counted out. The steps already taken in regard to utilising the artesian water are described below.

### Cainozoic Period.

To this period belong the deposits covering the greater portion of the central and western districts of the state. It therefore embraces the valleys of the great western rivers and their chief tributaries. The formation is, however, intersected by a broad broken belt, chiefly of Silurian rocks, extending across its centre, from the Bogan River towards the Great Barrier Range on the farther side of the Darling. Large patches of Devonian rocks are also met with in the same region. Making these deductions, the *Post-Tertiary* rocks cover more than one-third of the whole state. The vast alluvial plains were formed during the Pliocene and Post-Pliocene periods. The alluvial deposits are of variable thickness, sometimes shallow; but in the great plains, between the main rivers which intersect the country, the deposits are of very great depth.

### Igneous and Metamorphic Rocks.

The area occupied by these rocks comprises one-eighth of the state—the principal rocks belonging to the series consisting of varieties of granite, quartz-porphyry and felstone, diorite, basalt, and serpentine. Granite occurs for the most part in the northern and southern masses of the Great Dividing Range, but is found outcropping throughout the Silurian deposits, which cover so large a part of the centre of the state. Diorite and basalt occur principally in the country between the Macleay and Manning Rivers, and on both slopes of the Liverpool Range, between the upper waters of the Namoi and Macleay. Serpentine is found scattered in different parts of the state, chiefly at Gundagai, Bingara, Lucknow, Nundle, Yulgilbar on the Clarence River, and Port Macquarie. The granites, quartz-porphyries and felstones have been recognised as belonging to the Palæozoic age; whilst the volcanic rocks, basalts, and others are chiefly contemporaneous with the tertiary series. At Kiama there is an immense development of interbedded basalt lavas and tuffs in the Permo-Carboniferous rocks.

### Artesian Water.

Before actual boring operations proved that the belief was well founded, it had long been scientifically demonstrated that there was every probability of water being obtained in the Cretaceous formation which underlies the whole of the north-west portion of New South Wales—a region favoured with only a sparse rainfall; and from an examination which has lately been made of this formation occurring in the western and north-western portions of the state, it is considered probable that the artesian water-bearing basin will be found to extend

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much farther south than it was previously supposed to do. It may, indeed, be yet found to extend approximately along the course of the lower Darling, and possibly below the Tertiary rocks of the north-western portion of Victoria, and part of South Australia.

It was not until 1879 that artesian boring was attempted in New South Wales. In that year operations were begun at Kallara, a station lying between Bourke and Wilcannia. The supply was tapped at a depth of 140 feet, and the effluent water rose to a height of 26 feet. In 1884 the Department of Mines put down its first bore in search of water, a small supply of which was reached at 89 feet. Since then much work has been done, both by the Government and by private enterprise. That artesian water is also obtainable in other than Cretaceous rocks is borne out by palæontological evidence, and some of the most successful bores, such as those at Coonamble, Moree, Gil Gil (Moree to Boggabilla), and Euroka (Walgett to Coonamble), have pierced rocks of Triassic age, corresponding with the Ipswich coal-measures.

In 1900 there were fifty-eight completed Government flowing bores, yielding approximately 36,000,000 gallons daily, while there were in addition twenty-one bores from which the water supply was obtained by pumping. The deepest bore sunk in the state is situated at Dolgelly, on the Moree-Boggabilla road, where a depth of 4,086 feet has been reached, the water issuing at a temperature of 130° Fahr., with an average daily supply of 745,200 gallons. The next deepest is situated at Wallon, on the same road, the depth being 3,695 feet. From this bore there is a flow of 800,000 gallons per diem, the temperature of the water being 124° Fahr. The largest flow is obtained at the Kenmore bore, on the road from Bourke to Hungerford, the daily average being 2,050,000 gallons. In addition to the Government bores there are 115 completed private bores, which yield an aggregate supply of 37,000,000 gallons per diem, while there are twelve others in progress.

The water from the Government bores, over and above that required for travelling stock and domestic use, is being used for irrigation purposes, and much has already been accomplished in this direction. At the Pera bore, 8 miles from Bourke, on the Wanaaring Road, an area of 68¾ acres has been reserved for an experimental farm. The remainder of the land has been cut up into 20-acre blocks, all of which have been let under the homestead selection provisions of the Crown Lands Act of 1895. Good results have attended the work of irrigation at this place, as well as at other bores, especially those on the Bourke to Barringun Road. Farms have also been established at Woollabra bore (Moree to Narrabri), and Tenandra bore (Warren to Coonamble), where the land has been surveyed for special lease in small areas, to which water is delivered from the bores by the Government. At each place a certain area is reserved for experimental cultivation. Further reference to this subject will be found in the chapter on "Agricultural Production."

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# FAUNA.

## Mammals.

AT the present time mammals are represented in Australia by the Monotremes, the Marsupials, a dog, and many rats and bats, as well as by the marine aquatic animals—whales, seals, and the dugong.

The Monotremes, which are confined to Australia, Tasmania, and New Guinea, comprise the duck-billed platypus (*Ornithorhynchus anatinus*) and the native porcupines (*Echidna* and *Proechidna*). The platypus—the "mallangong" and "tambrit" of the aboriginals—inhabits Australia and Tasmania, and is one of the most interesting animals known. The male is much larger than the female, and may be distinguished by the horny spur on the hind foot being of very large size. The total length of the male is 24 inches, while the female seldom exceeds 19 inches. In colour, the platypus is of a deep brown above, and of a greyish or yellowish white below, the fur being close and velvety. The muzzle is produced into a broad, flattened beak, which is covered during life with a delicate and sensitive skin; the tail is well developed, broad and flattened; and the feet are modified into swimming organs, the five toes being extensively webbed; while the teeth, which are unlike those of any other existing mammal, are shed early in life, their place being taken by a series of horny plates. As a mammal, the platypus is chiefly interesting because of the fact that it lays eggs. These are white in appearance; usually two in number, although three and even four are sometimes laid at one time; and in texture they are similar to the eggs produced by reptiles. When hatched, the naked and helpless young are nourished on their mother's milk, as in the case of all mammals. The nest of the platypus is formed at the end of a burrow, which is reached by two openings—one above and the other below the surface of the water.

The Echidnas are also egg-laying, but differ from the platypus in that the females carry their two eggs in a pouch, where they are hatched by the warmth of the body. The common echidna (*E. aculeata*) is characterised by having the fur thickly mingled with spines, which sometimes conceal the hair beneath. The muzzle is produced into a long cylindrical beak, which during no period is known to possess teeth; it is admirably adapted to protect and assist the worm-like extensile tongue. The feet are stout, unwebbed, and furnished with five powerful claws. The tail is short and conical. Several species have been

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described, but modern zoologists are inclined to consider them as geographical varieties. Regarded thus, the echidna ranges from south-eastern New Guinea, throughout Australia, to Tasmania. Those echidnas which are generically named *Proechidna* are distinguished by possessing only three toes on each foot, and by having a much curved beak of great length. Two species are known, both of which are confined to New Guinea.

The marsupials, to which class belong the great majority of Australian mammals, are distinguished by the young being produced in an extremely imperfect state of development, and nurtured frequently in an abdominal pouch for a lengthy period. In bush districts it is a common belief that the young are produced on the teat; this, however, is quite erroneous, for they are born in the usual manner and afterwards applied to the teat by the mother. Australia is the great home of the marsupials, but they also occur in Tasmania and New Guinea, and have overflown into neighbouring islands. In America marsupials are also found, but there they are represented by a single family—the *Didelphyidæ*. The habits and conditions assumed by the marsupials are very varied. They are divided into seven families, namely, the *Macropodidæ*, *Phalangeridæ*, and *Phascolomyidæ*, constituting the sub-order of Diprotodonts, so named from the fact that the animals included possess only two front teeth in the lower jaw; and the *Peramelidæ*, *Dasyuridæ*, *Notoryctidæ*, and *Didelphyidæ*, constituting the sub-order of Polyprotodonts, distinguished by having six or more such teeth.

1. *Macropodidæ*.—This family includes the kangaroos, wallabys, tree kangaroos, and rat kangaroos. The kangaroos are so well known that they do not require more than a passing notice. They vary in size from the great grey kangaroo (*Macropus giganteus*), as large as a man, to the little musk kangaroo (*Hypsiprymnodon moschatus*), which can easily be concealed in the pocket. Their hind limbs are very long, and progression is chiefly effected by hopping, the long tail meanwhile acting as a balancer. The tree kangaroos of Queensland and New Guinea are among the most notable of the family, climbing tall trees, even to the most slender branches. Less frequently observed upon the ground than the others, their limbs are more equal in length.

2. *Phalangeridæ*.—Under this name are included the Australian opossums, the flying opossums, the flying mouse (one of the smallest marsupials), and the clumsy native bear—all tolerably well-known forms.

3. *Phascolomyidæ*.—The wombats, of which there are three species, are heavily-made, short-limbed animals. They excavate huge burrows in the ground, and feed upon grass and other herbage. They inhabit Australia and Tasmania.

4. *Peramelidæ*.—The bandicoots, found in Australia and New Guinea, are assigned to three genera—*Peragale*, *Perameles*, and *Chœropus*. Members of the first-named are known as rabbit bandicoots, or beilbys; while the second genus includes the true bandicoots, whose form and

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habits are sufficiently well known. The pig-footed bandicoot (*Chœropus castanotis*) is generically separated on account of the unique and peculiar structure of the feet, which have a striking resemblance to those of the pig.

5. *Dasyuridæ*.—The animals included in this family are the marsupial carnivora, so to speak, and are familiar as native cats (*Dasyurus*) and pouched mice (*Phascologale* and *Sminthopsis*). These forms occur in Tasmania, New Guinea, and adjacent islands, as well as in Australia. The most formidable of the group are the Tasmanian tiger or wolf (*Thylacinus cynocephalus*) and the Tasmanian devil (*Sarcophilus ursinus*), which are confined at the present day to the state indicated.

6. *Notoryctidæ*.—The recent finding of a mole-like animal in Australia is one of the most interesting discoveries of the day. The marsupial mole is in no way connected with the European mole, but nevertheless has acquired many similar habits—affording a valuable lesson in parallelism in development. It is known only from central South Australia.

7. *Didelphyidæ*.—These are the true opossums, and being confined to America, need not be further mentioned here.

Dogs and seals form the carnivora of Australia. The dog family (*Canidæ*) is represented by the dingo, or native dog (*Canis dingo*), called by the aboriginals "worregal"; dingo being only the aboriginal name for the domestic dog introduced by Europeans. The native dog is found in all parts of the Australian mainland, and will inbreed with the domestic dog, crosses being common throughout the settlements. It is questionable whether the dingo is indigenous, or whether it has been introduced from abroad. It was undoubtedly acclimatised before the arrival of the first white settlers. The dingo does not bark, its temper is intractable, and it works great havoc among the flocks of the settlers.

The *Rodentia* find representatives in many species of native rats, the more typical of which belong to the genus *Mus*, and the Jerboa-like forms to the genus *Conilurus*. The familiar water rat is known as *Hydromys chrysogaster*.

The *Chiroptera* are well in evidence, and include the flying-foxes and many insectivorous bats. The common flying-fox (*Pteropus poliocephalus*) is met with in the brush lands, but it haunts the neighbourhood of towns during the fruit season, making great depredations among the orchards and gardens.

Of seals (*Pinnipedia*), the species found off the coast of New South Wales are the Australian sea bear or eared seal (*Otaria Forsteri*), and the sea leopard (*Ogmorhinus leptonyx*), the former being a sociable and the latter a solitary species.

Among other mammals belonging to New South Wales, or found contiguous to its coasts, are representatives of the orders Cetacea and Sirenia, the first comprising whales, porpoises, and dolphins; and the

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second, manatees and dugongs. Whales have always haunted the coasts of the state, and formerly a brisk trade was carried on in oil and whalebone, Twofold Bay, about 208 miles south of Sydney, being the chief seat of the industry. Among the whalebone-whales which inhabit our waters may be mentioned the Southern right whale (*Balæna australis*), the pigmy whale (*Neobalæna marginata*), and the Sulphur-bottom (*Balænoptera Huttoni*); while of sperm whales there are the gigantic *Physeter macrocephalus*, *Mesoplodon Layardi*, and *Kogia breviceps*. The dolphin of our waters, commonly called "porpoise," is not distinguishable from the common and cosmopolitan form, *Delphinus delphis*. The order Sirenia is represented by the dugong (*Halicore dugong*), but it is now seldom seen south of Moreton Bay. Its flesh is highly valued by the natives, and its oil is a good substitute for cod-liver oil.

Besides those already mentioned, geological research has brought to light the remains of numerous extinct species of gigantic mammalia. The largest fossil marsupial, the *Diprotodon australis*, an herbivorous monster, was as large as the rhinoceros, and related to the native bear or the wombat. Its bones have been found distributed generally throughout eastern and southern Australia. Fossil remains of another large marsupial, the *Nototherium*, named by the late W. S. Macleay the *Zygomaturus*, have also been found, as well as of a member of the family of the *Phascolomyidæ*, or wombats, and of a marsupial rodent-like animal, named the *Sceparnodon*. In the bone-breccia of the Wellington Valley Caves were found the bones of gigantic kangaroos (*Macropus titan*), which have been placed in the genera *Palorchestes*, *Procoptodon*, *Protemnodon*, and *Sthenurus*; besides those of the *Thylacoleo carnifex* and the true *Thylacinus*. The Wellington Valley Caves have also yielded fossil remains of a "porcupine" (*Echidna*) and a platypus (*Ornithorhynchus*), belonging to the order Monotremata.

## Reptiles and Batrachians.

First among the reptiles may be mentioned the snakes. Although there are very many species of both venomous and harmless snakes, yet there are only about five which are actually harmful. The deadly snakes of the state are as follow:—

1. The black snake—*Pseudechis porphyriacus*.
2. The brown snake—*Diemenia textilis*.
3. The tiger or brown-banded snake—*Notechis scutatus*.
4. The superb or copper-headed snake—*Denisonia superba*.
5. The death adder—*Acanthophis antarctica*.

To these should be added several sea snakes not infrequently found on the coast. Nearly all of these are highly venomous.

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The largest of the harmless species are true pythons, known as the diamond and carpet snakes (*Python spilotes*). Of tree snakes the commonest is *Dendrophis punctulatus*.

Lizards may be said to swarm. The goanas, of which the *Varanus varius* attains a length of 6 feet or more, are the largest kind. Other familiar forms are the blue-tongued lizards (*Tiliqua scincoides* and *T. nigro-lutea*), the Jew-lizard (*Amphibolurus barbatus*), the water lizard (*Physignathus Lesueurii*), and the spiny lizard (*Egernia Cunninghami*). The best-known gecko is the rock gecko (*Gymnodactylus platurus*), a harmless, though curious, little creature, much feared by those ignorant of its nature.

The tortoises are semi-aquatic, and belong to the genera *Chelodina* and *Emydura*. Although two species of crocodile frequent the rivers of Queensland, they are fortunately absent on the New South Wales side of the border.

Of Batrachians, there are neither newts nor salamanders on the continent, but of frogs there is an immense choice, the tree frogs (*Hyla*) and the swamp frogs (*Limnodynastes*) being the most familiar forms.

## Birds.

Few countries can boast of a greater variety of beautiful birds than New South Wales, all the more important orders and families of the class Aves being represented in the fauna of the state. In the Australian continent and the adjacent islands no less than 770 species of birds have been discovered, some of which are especially interesting, and among these may be mentioned the lyre-bird (*Menura superba*), the satin bower-bird (*Ptilonorhynchus violaceus*), the fawn-breasted bower-bird (*Chlamydodera cerviniventris*), and the tooth-billed bower-builder (*Scenopœus dentirostris*); the mound-building mallee fowl (*Lipoa ocellata*), the mound-building brush-fowl (*Talegallus Lathami*), and the collared plain-wanderer (*Pedionomus torquatus*). Many of the Australian birds, besides being beautifully plumaged, are no mean songsters, and others again are possessed of remarkable powers of mimicry and ventriloquism.

The order Accipitres is well represented in New South Wales, twenty-six out of the twenty-eight species inhabiting Australia being found in the state. The largest of all our birds of prey is the wedge-tailed eagle (*Aquila audax*). In many parts of the state this fine bird is included in the list of noxious animals and birds, in consequence of the destruction which it causes amongst lambs, but in the dingo and rabbit infested districts it is protected by land-owners on account of the effectual service which it renders in keeping these pests in check. Another useful bird is the black-breasted kite (*Gypoictinia melanosternon*), frequenting the inland districts. As many as thirty rabbit skulls have been found under a nest of a pair of these birds containing young. The white-bellied sea

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eagle (*Haliætus leucogaster*) and the white-headed osprey (*Pandion leucocephalus*) frequent the bays and inlets of the coast, while several species of hawks, eagles, harriers, kites, and a kestrel are found inland. The sub-order Striges, or nocturnal birds of prey, is represented by eight species. Chief among these are the great owl of the brushes (*Athene strenua*) and the sooty owl (*Strix tenebricosa*), found in the coastal districts.

The order Psittaci is especially numerous, and includes many beautiful species of cockatoos, parrots, parrakeets, and lorikeets. Among the larger species are the white and black cockatoos, yellow and pink crested; and the grey pink-crested gallah. The parrot family is also especially strong, some of the most notable members being the love-birds (*Melopsittacus undulatus*), the green parrot, and many kinds of lories, all gorgeously plumaged.

The order Picariæ, which embraces swifts, kingfishers, cuckoos, etc., includes one very remarkable specimen, viz., the great kingfisher, goburra, or laughing-jackass, so called from its extraordinary mocking laugh. It is one of the most valuable of birds, being the determined enemy and persistent destroyer of small reptiles. The mopoke, or boobook owl (*Podargus strigoides*), is also a characteristic member of this order, which includes the owlet night-jar, the dollar bird, and several species of kingfishers.

The order Passeres comprises swallows, crows, rifle-birds, honey-eaters, finches, pittas, etc. This is the largest order of birds in Australia; and the finest, if not the most beautiful, family is the *Menuridæ*. New South Wales possesses a handsome species of this remarkable Australian bird, called from the shape of its tail the lyre-bird (*Menura superba*). It is to be found chiefly in the fern gullies and brush-forests of the state. To the order Passeres belong also the crow-shrikes of the genera *Cracticus* and *Gymnorhina*, the beautifully-plumaged regent birds (*Sericulus melinus*), whip-birds (*Psophodes crepitans*), swallows, martins, diamond birds, fly-catchers, fan-tails, wedge-bills, thick-heads, robins—red-capped, red-breasted, and yellow; "superb warblers," emu-wrens, meadow pipits, bristle-birds, grass, crimson, and painted finches; pittas, ground-thrushes, bower-builders, cat-birds, rock-warblers, and honey-eaters (*Meliphagidæ*). Worthy of special notice in this large order of birds are the bower-builders. Three species of these extraordinary and interesting birds are found in the state. The brilliantly-plumaged regent-bird (*Sericulus melinus*), which forms the most primitive bower or playing-place, frequents the dense coastal brushes of the northern rivers; the satin bower-bird (*Ptilonorhynchus violaceus*) is found in the scrubs and mountain-ranges of eastern New South Wales; and the spotted bower-bird (*Chlamydodera maculata*) inhabits the grassy plains and lightly-timbered country inland. Scattered about the entrances to the bowers of the last two species are pieces of bleached bone, land shells, bright feathers, bits of looking-glass, coins, or any bright object which the birds may pick up in the bush.



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The order Columbæ is largely represented in the state, especially in the great primæval forests of the coast districts. In the cedar brushes of the Liverpool Range white-headed fruit pigeons are very numerous; and in the brush-forests of the Clarence, the Richmond, the Macleay, and Illawarra, the top-knot and large-tailed pigeons, and the wonga-wonga (*Leucosarcia picata*), so prized for its large size and the whiteness and delicacy of its flesh, are very plentiful. The bronze-winged pigeon (*Phaps chalcoptera*) is common to almost all parts of the state. Several species of these birds are remarkable for their beautiful plumage, their size, and the excellence of their flesh. One of the finest species, the partridge bronze-winged pigeon (*Geophaps scripta*), is found almost exclusively in the plains of the interior. Doves are also numerous, and most of the species are extremely delicate and beautiful. The little turtle-dove of the inland districts (*Geopelia cuneata*) is the prettiest specimen of this family.

The game birds found in the state belong to the orders Gallinæ and Hemipodii. The former is represented by the wattled talegallus (*Talegallus Lathami*), found in the northern coastal scrubs and contiguous mountain ranges, and the mallee-fowl (*Lipoa ocellata*), inhabiting the inland districts. Both of these birds belong to the family *Megapodiidæ*; they are mound-raising birds, and deposit their eggs in a scraped-up heap of leaves, decaying vegetable matter, and sand. To this order also belong the stubble quail (*Coturnix pectoralis*), the swamp quail (*Synoicus australis*), and the king quail (*Excalfatoria lineata*), the last-named species being probably the smallest game bird in the world. The order Hemipodii, which by some authorities is included in the Gallinæ, is represented by four species of turnix, commonly known as quail, and the remarkable collared plain wanderer (*Pedionomus torquatus*).

The order Grallatores includes many genera, and to it belongs the Australian bustard, commonly known as the Plain turkey (*Eupodotis australis*), as well as the waders, such as stilts, water-crakes, ibises, dotterels, gallinules, spoon-bills, herons, bitterns, and many others.

Among water-birds, Natatores, are enormous numbers of wild-fowl of all descriptions, ducks, geese, grebes, as well as black swans. The latter is essentially an Australian bird, and may be met with in all parts of the continent. The order embraces, also, the large and very varied species of sea-birds frequenting the coast, such, for instance, as albatrosses, gulls, petrels, and cormorants.

The order Struthiones, or running birds, is represented by the emu (*Dromaius novæ-hollandiæ*), the largest bird in this part of the globe, and one, unfortunately, rapidly being exterminated.

Besides the birds mentioned above, there are others of perhaps less note, but numerous, and frequently very beautiful. They are all admirably described and depicted in the celebrated work of Mr. Gould, which occupies a high rank amongst the scientific publications of the century.

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## Fishes.

According to the late Rev. J. E. Tenison-Woods, no less than sixty different families of fishes, comprising 348 species, frequent the waters of New South Wales. These are enumerated in the subjoined table :—

| Name of family. | No. of species. | Name of family. | No. of species. |
|---|---|---|---|
| Percidæ | 50 | Ophiocephalidæ | 1 |
| Squamipinnes | 4 | Trachypteridæ | 1 |
| Nandidæ | 2 | Pomæcentridæ | 4 |
| Mullidæ | 3 | Labridæ | 18 |
| Sparidæ | 14 | Gadopsidæ | 1 |
| Cirrhitidæ | 6 | Gadidæ | 4 |
| Scorpænidæ | 11 | Pleuronectidæ | 9 |
| Teuthididæ | 2 | Siluriidæ | 5 |
| Berycidæ | 3 | Scopelidæ | 6 |
| Kurtidæ | 2 | Salmonidæ | 1 |
| Polynemidæ | 2 | Galaxiidæ | 7 |
| Sciænidæ | 2 | Scombresocidæ | 6 |
| Xiphiidæ | 1 | Clupeidæ | 12 |
| Trichiuridæ | 1 | Chirocentridæ | 1 |
| Acronuridæ | 1 | Symbrachidæ | 1 |
| Carangidæ | 15 | Murænidæ | 11 |
| Cyttidæ | 1 | Syngnathidæ | 6 |
| Coryphænidæ | 2 | Sclerodermi | 21 |
| Scombridæ | 10 | Gymnodontes | 12 |
| Trachinidæ | 5 | Carcharidæ | 8 |
| Batrachidæ | 1 | Lamnidæ | 1 |
| Pediculati | 4 | Scyllidæ | 3 |
| Cottidæ | 7 | Cestraciontidæ | 2 |
| Cataphracti | 1 | Spinacidæ | 1 |
| Gobiidæ | 15 | Rhinidæ | 1 |
| Blenniidæ | 17 | Pristiophoridæ | 1 |
| Sphyrænidæ | 3 | Rhinobatidæ | 2 |
| Atherinidæ | 4 | Trygonidæ | 3 |
| Mugilidæ | 7 | Torpedinidæ | 1 |
| Fistularidæ | 1 | Raiidæ | 1 |

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The edible fishes comprise 105 different species; amongst the best known may be mentioned:

The schnapper (*Pagrus unicolor*), the most valuable of all Australian fishes, is found along the whole extent of the coast, and is very abundant. It is a deep-water fish, found generally near rocky points or reefs running out into the sea. The schnappers "school," as it is termed, during the summer months, and are then most plentiful. The young fish, known as red bream, frequents the harbours and estuaries of the coast, but is never found in shallow water. The schnapper is caught by the hook, which it takes freely, as it will attack almost any bait. It sometimes attains a very large size, weighing as much as 30 lb. The fish cures well, and is said to be equal to the finest cod, and is in every respect superior to ling.

The nannigai is a deep-water fish, caught with the hook, and ranks high in public estimation as an edible fish. The supply is not large, as the fish is not specially sought after, being chiefly obtained by fishermen in search of schnapper. The nannigai is scientifically interesting as one of the oldest forms of bony-fishes now surviving.

The black rock-cod is considered one of the best of Australian fish, and is also a deep-water fish, never captured by the net. It grows to a great size, specimens from 35 lb. to 40 lb. being not uncommon, whilst fish weighing over 100 lb. are met with in the markets. It is found more abundantly in the warmer waters of the north of the state, where, as a rule, it attains larger proportions than to the southward of Sydney. In the vicinity of the islands lying off the New South Wales coast—the Seal Rocks, Solitaries, Elizabeth Reef, and Lord Howe Island—the black rock-cod may be taken in almost any quantity, and of the largest size.

A fish of great size and beauty, known in Australia as the salmon, is found off the coast in prodigious quantities. It has no affinity whatever to the true salmon, and is inferior as an article of food.

The flat-head, a fine fish, of which there are several varieties, is captured both by the hook and net. It is of excellent quality, and ranks high amongst New South Wales fishes.

There are four species of whiting found in these waters. The common sand-whiting and the trumpeter-whiting are both very abundant, but the other two species are more rare. The sand-whiting is perhaps the fish most in demand in the metropolitan markets, where it is to be obtained all the year round.

The jew-fish is the largest edible fish found on the New South Wales coast, attaining sometimes a length of 5 feet. It is found at all seasons, but most frequently during summer. The teraglin is of the same family as the jew-fish, though it does not reach an equal size. The air bladder is large and of excellent quality, being of great value for the making of isinglass.

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The mackerel is obtained in enormous quantities off the coast, and sometimes even in the harbours. It is a good fish when eaten fresh, but it decomposes rapidly.

The family of Mugilidæ, or mullets, is well represented in Australian waters. The sea mullet is a large fish, often attaining a length of 2 feet, and a weight of 8 lb. It is regarded by some authorities as unsurpassed in richness and delicacy of flavour by any fish in the world; and it visits these shores in countless numbers in the season when it is in the best condition. When young the fish keeps entirely to the creeks and lakes, where it increases in size very rapidly, but when full-grown it seeks the open waters.

There are four species of gar-fish found on the New South Wales coast. The Sydney gar-fish is very abundant, especially towards the end of summer, making its appearance in shoals, sometimes of enormous size. The river gar-fish is even of better quality than the last mentioned, but it is not so plentiful as formerly. The other species are seldom met with. There are numerous other varieties of fishes found in the waters of New South Wales, many of which are very valuable as articles of food, but for the most part they are neither so numerous nor so easily obtained as those referred to.

Destructive fishes are by no means rare, the shark family being largely represented, not only in the deep sea, off the coast, but even in the harbours. The shark is not, however, absolutely valueless. The fins find a ready sale in the Chinese markets; the skin also has some commercial value; while from the liver is extracted a large quantity of valuable oil, equal in every respect to cod-liver oil.

Several varieties of fishes which have long disappeared from other parts of the world are still represented in New South Wales. Amongst these is the cestracion, or Port Jackson shark, whose teeth resemble those of the fossil acrodis found in the mesozoic deposits.

During the season the Australian waters teem with herrings, the season of immigration being the last six months of the year. There are four species, but two only are of commercial importance, though a more accurate knowledge of the composition of the shoals might lead to the discovery of other valuable species. The most valuable of this family of fishes is the pilchard. The Australian pilchard in a fresh state is equal in excellence to the Atlantic pilchard, and there is every reason to suppose that it can be obtained in quantities sufficient to enable competition to be entered into with the bloater and sardine of Europe. The maray also pass northward at the same time as the pilchard, and in like prodigious numbers, but both species keep well away from the shore.

The rivers of the state produce some most excellent specimens of fresh-water fish. The Murray, Murrumbidgee, Lachlan, and Darling are the most plentifully stocked, the Murray cod (*Oligorus Mitchelli*) being perhaps the most highly esteemed of their fishes. Another fish of the same species is the *Oligorus Macquariensis*, which is to be met

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with in the upper branches of the Clarence. Specimens of both these varieties of fresh-water cod have been found weighing as much as 100 lb. The silver perch, and several kinds of the Percidæ family, so highly prized for their delicacy, are plentiful in the rivers. In the Richmond River the cat-fish (*Copidoglanis tandanus*) is very common, whilst herrings and mullet are caught in almost all the eastern rivers of the state.

Little systematic attempt has yet been made to acclimatise European varieties of edible fishes, although success would most probably attend any efforts in this direction, every difficulty having been overcome in Victoria, New Zealand, and Tasmania. Large quantities of trout ova have been distributed in various localities, including the Prospect Reservoir.

## MOLLUSCA.

The first of local shell-fish in economic interest is the oyster. Two kinds occur on the coast of New South Wales—a large one, considered to be a form of the English oyster (*Ostrea edulis*), and popularly known as the mud oyster; and a smaller sort, the rock oyster (*O. glomerata*).

The mud oyster reaches in Sydney the northern limit of its range, and fails to attain here to the luxuriant growth which it exhibits in cooler climates. The prolific beds of Stewart's Island, New Zealand, furnish a large proportion of the supply of mud oysters for the Australian markets. This oyster prefers deep and muddy places, where it may attain a length of 8 inches. Nowhere is it now abundant, and, indeed, it seems to be approaching extinction. The blacks formerly feasted upon it, but connoisseurs of the superior race disparage it as large and coarse.

Unlike the mud oyster, the rock oyster is well suited to cultivation. In Southern Queensland, favoured alike by more congenial climate, extensive tracts of shoal and sheltered water, and appropriate legislation, the cultivation of this species has been most successful. The beds in Moreton Bay supply not only the local demand, but also the requirements of the southern capitals. Though falling short of the perfection reached by the cultivation of the Bay of Biscay and the New York coast, the management of the Queensland oyster-beds excels that of any other Australian fishery. When accurate details of the mode of breeding of the rock oyster shall have been found by exact scientific inquiry, a further impetus will be given to this flourishing industry. At present all that is known is that in its habits the Australian rock oyster differs altogether from the English and American kinds. Incidentally, it may be remarked that the English oyster cannot be consumed in May, June, July, and August, but the Pacific oyster is in season all the year round. From the chapter on "Fisheries" it will be seen that large quantities of oysters are imported into the state every year, and it is evident, therefore, that the local market will afford ample support to the cultivators

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of the bays and deltas of northern New South Wales. The obstacles to success are floods and shifting sandbanks, and the depredations of boring worms and whelks; while among the advantages of this lucrative occupation are the quickness of returns and the smallness of capital required.

Quantities of spat are thrown off at various times, but especially heavy falls occur in the spring, after which the rocks between tide-marks may be literally plastered with young shells of the size of a shilling. The great majority of these perish; those surviving reach maturity in about twelve months, and probably increase in size for two or three years. When adult, their length is about 3 inches. Typically, they have sharply-waved, black-purple edges. Form and colour, however, are so altered by environment that specimens from different situations have been given different names. That they are really one kind is, however, proved by taking a young purple and crumple-edged shell from a position on rocks washed by waves, and placing it on a zostera flat in calm water. Here it develops a thin, white, smooth and large shell; so that one shell may show one form at one end and another at the other, the line of junction marking the period of transference.

No shell-fish other than oysters are regularly consumed in New South Wales, the Australian inheriting and accentuating the British distaste for such small game. Occasionally, however, there are exposed for sale at the Sydney fish market the whelk (*Potamides ebeninum*) and the cockle (*Area trapezia*), the former being cooked, and the latter eaten either cooked or raw. Both the whelk and the cockle are used as bait, but neither is at all like its English namesake. Probably their use as food is restricted to the Greek and Italian element of the Sydney population. The mutton fish, or "abalone" of Californian markets (*Haliotis naevosa*), is consumed by the Chinese, who, it is said, also collect it for export; but the ordinary citizen is unacquainted with it. The "ugarie," commonly miscalled by Sydney anglers by the Maori name of "pipi" (*Donax deltoides*), is frequently used for bait, rarely for food. As an article of diet, various squid (*Sepia cultrata*, *S. mestus*, &c.) are left to the foreign and coloured of the local sea-faring population, but as bait their good qualities are better appreciated. The beaches of New South Wales are not rich in ornamental shells, but the exquisite and rare "king-cockle" (*Trigonia Lamarckii*) from Sydney Harbour is a valued gem, and, as a brooch, may often be seen worn.

Of pests in this division of natural history, the local species of ship-worm, the "cobra" (*Teredo Saulii*), has wrought great damage amongst shipping, wharves, and piers. It is a far larger and more destructive species than any occurring in European waters. In gardens, the common European snail, the "limaçon" dear to the French epicure (*Helix aspersa*), has now obtained a firm footing, and ravages flowers and vegetables alike.

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## Crustacea.

The crustacean fauna of New South Wales is extremely rich in species, but only about twelve kinds are used as an article of diet. Of these, six are fairly common and highly esteemed as food, and are as follow :—

Common Swimming Crab (*Neptunus pelagicus*, Linn.).—This is the commonest crab offered for sale in Sydney. It often attains a weight of 2 or 3 lb., and is always in great demand, finding a ready sale at prices varying from 3d. to 9d. each. The principal supplies are obtained in Sydney Harbour, and from Botany Bay. The shell or carapace of this species is very broad, and ornamented on the front edge with twenty-four spines. Six of these are situated between the eyes, and nine on each side, the last being much larger than the others.

Swimming Crab (*Goniosoma crucifera*, Fabr.).—This species is not common, although it may be seen exposed for sale in large numbers during some months of the year. It attains to a size slightly exceeding the preceding species. The claws are shorter, stouter, and the spines on the arms large, compressed, and tooth-like. The front edge of the shell is armed with twenty spines—six on each side and eight between the eyes. The colour is "reddish, with yellowish spots and bands, of which the middle one represents a cross."

Mangrove Crab (*Scylla serrata*, Forsk.).—This is the largest and most valuable crab obtained on our coast. Unfortunately, it is not common; still, a fairly large number have been exposed for sale during the last few years. The price ranges from 1s. to 2s. 6d. each. The main supplies are obtained from Botany Bay. In this species the claws are very large; the front edge of the shell is armed with twenty-four nearly equal spines; and the back of the shell is convex and smooth. The colour of the mangrove crab when alive is olive-brown. It inhabits deep holes in the mud, and comes out at low tide to feed.

Sydney Craw-fish (*Palinurus Hügelii*, Heller).—The craw-fish, or lobster (as it is usually called), is very abundant along the whole coast-line, but the chief supplies are obtained at Port Stephens. It is by far the largest and most valuable of all the crustaceans of New South Wales, often attaining to 8 or 10 lb. in weight. Between four and five thousand dozen are sold annually in the wholesale markets at prices varying from 1s. to 20s. per dozen.

A second species is often seen offered for sale—the "Southern Craw-fish" (*Palinurus Lelandii*), which is equal to the Sydney craw-fish as an article of food, although usually much smaller. It may readily be distinguished by the highly-sculptured segments of the abdomen, and by the numerous hairs surrounding the bases of the spines.

River Cray-fish (*Astacopsis serratus*, Shaw).—The cray-fish is seldom offered for sale in Sydney, but it is much used as food along the banks of the inland rivers. These crustaceans often attain to a foot or more

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in length, and are highly prized in the winter season, when they are in their best condition.

Common or Sand Prawn (*Penaeus canaliculatus*, Olivier).—The common prawn is obtained in large quantities during the greater part of the year, but in midwinter there is at times a falling-off in the supply, and prices rise accordingly. In addition to the demand for consumption as food, this prawn is much used as bait, and frequently fetches very high prices in times of scarcity. Large specimens often reach 8 or 9 inches in length. The principal supplies are obtained from Sydney Harbour, Botany, and Cape Hawke. The species may be recognised by the deep grooves which extend along each side of the beak or rostrum to the hinder margin of the carapace, and by the rostrum, which is armed above with ten or twelve spines and with one below.

Tiger Prawn (*Penaeus monodon*, Fabr.).—The tiger prawn is a species which appears to frequent the coast at irregular intervals. Occasionally it is captured in abundance in Sydney Harbour and at Botany. This species may be readily identified by the numerous dark-coloured cross-bands on the body and by the rostrum or beak, which has six or eight teeth above and three or four below.

River Prawn (*Penaeus Macleayi*, Haswell).—The river prawn is not so large as the two preceding species, seldom exceeding 4 or 5 inches in length. It is, however, very abundant, and appears to be obtainable during the whole of the year. The rostrum of this species has five or six teeth above, but none below—a characteristic which enables it to be easily distinguished from other forms.

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# FLORA.

THE vegetation of New South Wales is both extensive and varied as regards species. The flowering plants and vascular cryptogams (ferns and lycopods) of the state—the indigenous species of which number approximately 3,400, without taking cognisance of a large number of varieties—have chiefly engaged the attention of botanists. Knowledge in regard to the *Thallophytes* (*Algæ*, *fungi*, and *lichens*), and of the *Bryophytes* (*Hepaticæ*, or liverworts, and mosses) is still very imperfect, but is being added to almost daily. Approximately there have been enumerated—

| | |
|---|---|
| *Algæ* | 200 |
| *Fungi* (from the microscopic fungi, such as rusts, to the large fungi, weighing several pounds) | 500 |
| Lichens | 300 |
| Liverworts | 80 |
| Mosses | 400 |

So that the total number of indigenous plants recorded is about 4,880. In addition to these, a large number, both of useful plants and of weeds, have been introduced, some of which have, to a considerable extent, displaced the indigenous vegetation.

Exclusive of cellular cryptogams, there are about 130 natural orders of plants represented in the indigenous flora of New South Wales. The orders with the largest numbers of representatives, so far as they have been ascertained, are given below. The figures are approximate, as the numbers are frequently being added to :—

(*a*) Dicotyledons—

| | |
|---|---|
| 1. *Rutaceæ* (Boronia family) | 95 |
| 2. *Leguminosæ* (including 110 Acacias or Wattles, the Australian genus containing the largest number of species) | 460 |
| 3. *Myrtaceæ* (Myrtle family, including the genus *Eucalyptus*, the Australian genus containing the largest number (60) of individuals) | 215 |
| 4. *Compositæ* (Daisy family) | 300 |
| 5. *Epacrideæ* (Epacris family) | 80 |
| 6. *Chenopodiaceæ* (Salt-bush family) | 76 |
| 7. *Proteaceæ* (Waratah family) | 150 |
| 8. *Euphorbiaceæ* (Euphorbia family) | 75 |

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(*b*) Monocotyledons—

| | |
|---|---|
| 9. *Orchideæ* (Orchid family) | 140 |
| 10. *Liliaceæ* (Lily family) | 70 |
| 11. *Cyperaceæ* (Sedges) | 70 |
| 12. *Gramineæ* (Grasses) | 200 |

(*c*) Acotyledons—

| | |
|---|---|
| 13. *Filices* (Ferns) | 135 |

Many of the indigenous plants are of special interest for botanical or horticultural reasons, but as the majority of people take cognisance of the vegetation chiefly from the point of view of its economic value, the following classification of the plants and plant-products of the state will be found convenient:—

1. Human food and food adjuncts.
2. Fodder Plants—
   - *a*. Grasses.
   - *b*. Salt-bushes and other plants.
3. Drugs.
4. Exudations—
   - *a*. Gums.
   - *b*. Resins.
   - *c*. Kinos.
5. Oils—
   - *a*. Volatile or essential.
   - *b*. Expressed or fixed.
6. Perfumes.
7. Dyes.
8. Tans.
9. Timbers.
10. Fibres.
11. Miscellaneous.

Of these, the fodder-plants and timbers exceed in importance all others; but the volatile oils—of which Eucalyptus oil is the principal representative—and tans are also of considerable and growing value.

The nutritious nature and the drought-resisting properties of some of the indigenous grasses, salt-bushes, etc., have become proverbial. It is well known that, thanks to the native pasture, sheep will often thrive in districts apparently sterile and waterless. Some of the most useful grasses of the state are ditch millets (*Paspalum*)—so called from the damp situations they prefer—and the extensive genus *Panicum*, which has representatives in the coast districts, on the mountain ranges and tablelands, and in the dry interior, and which includes spider grass, rolypoly grass, cotton grass, two-finger grass, barnyard grass, black-seeded panic grass, native millet, and a number of other grasses. The mulga grasses (*Neurachne*) are valuable species which are found in the interior, and which would be in great danger of extinction if it were not for the protection afforded to them by mulga and other scrubs. Another valuable kind is that of the *Andropogons*, which include the satin top (*A. erianthoides*), the blue grass (*A. sericeus*)—one of the very best of the native grasses—and the closely allied *A. affinis* and *A. pertusus*. The kangaroo grass (identical with the rooi grass of South Africa, and known to botanists as *Anthistiria ciliata*) is one of the most valuable of all Australian grasses. *A. avenacea* and *A. membranacea* occur in the drier part of the state, and are almost equally meritorious. The toothed bent grass (*Deyeuxia Forsteri*) is a useful

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pasture grass, which, however, fades away with the fierce heats of summer; the remaining species of the genus are found in the colder parts of the state, some of them ascending the highest mountains. The *Danthonias*, some of which, from the appearance of their inflorescence, are called silver grasses, include several useful pasture grasses, amongst which *D. robusta*, the ribbony grass of Mount Kosciusko, so palatable to horses, deserves to be specially mentioned. The Mitchell grasses (*Astrebla*) are well known as some of the best found in the interior of the state, and efforts are being made to distribute them over a wider area. The couch grass (*Cynodon dactylon*) is found wherever settlement exists, and is, therefore, often looked upon as having been introduced; it is, however, truly indigenous, although it was not originally found in many localities where it now grows. The windmill and star grasses (*Chloris*), and the small crow-foot of the interior (*Eleusine aegyptiaca*), are also valuable species. Some meritorious kinds are included amongst the love grasses (*Eragrostis*); and the manna grasses (*Glyceria fluitans* and *Fordeana*), which inhabit wet places, are particularly palatable to stock. Another fairly useful grass is the native brome (*Bromus arenarius*).

Salt-bushes belong to the natural order *Chenopodiaceæ*, of which name *Salsolaceæ* is a synonym. The four genera which include the great majority of useful Australian salt-bushes, are *Chenopodium*, *Rhagodia*, *Kochia*, and *Atriplex*. *Chenopodium auricomum*, one of the so-called blue-bushes, which owe their name to their bluish and sometimes almost whitish cast, has received its specific name from the almost golden cast which it sometimes shows. In the genus *Rhagodia* are included the hastate-leaved salt-bush (*R. hastata*), which is both useful for fodder and for ornamental purposes; *R. parabolica*, a useful but rather coarse species; and *R. spinescens*, the spineless variety of which is a useful fodder-plant. The genus *Kochia* comprises some salt-bushes which are valuable in spite of their cottony nature. *K. villosa*, known as the cotton-bush, is one of the most drought-resisting and nutritious plants of this group; and other species worthy of special mention are *K. eriantha* and *K. aphylla*. But by far the largest number of valuable salt-bushes are contained in the genus *Atriplex*. Amongst them stand out most prominently the old man salt-bush (*A. nummularia*), which yields a large bulk of useful fodder, but which, like many other species, has been destroyed and eaten out over large areas where it was once plentiful; *A. halimoides*, which is more valuable in some parts of the state than in others; *A. leptocarpa*, a small species which has met with great favour in California; *A. semibaccata*, one of the most valuable species, the seed of which has become an important article of commerce; and *A. vesicaria*, also a species of special value. And these species are only a selection from the useful members of the genus *Atriplex*.

While fodder-plants are convertible into wealth in the form of wool, meat, and butter, trees are a ready and tangible asset as soon as they

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are cut down and sawn; and in view of its special importance, an account of the forest wealth of the state is given in some detail in the chapter dealing with forestry—the subject being dismissed here with a brief description of the appearance of the forests, and the names of the principal timber trees of commercial value.

Forests extend over almost the whole area of the state, excepting portions of the Monaro, the Lachlan, the Murrumbidgee districts, and the trans-Darling region, where extensive treeless plains occur, clothed with salt-bush, scrub, or species of natural grasses, the most important of which have already been described. The country covered by timber may be divided into three classes—open, brush, and scrub forests.

Open forests cover the greatest portion of the surface of the state, and are found in every formation. The trees met with are chiefly species of Eucalyptus, Angophora, and other genera of the order Myrtaceæ. The prevalence of the eucalypti, and the large extent covered by the forests, give the country a rather monotonous aspect. But the park-like appearance of the open forests, and the beauty of the many flowering shrubs, win admiration in spite of the sameness of the trees; while even the dull, greyish blue of the foliage of the gum-trees, when relieved by the yellow blossoms of the wattle, including the graceful myall, or the beautiful and shapely kurrajong, is not without its attractiveness. The trees are for the most part straight and cylindrical in the trunk, and when full grown their first branch is at a considerable height from the ground. The roots of the eucalyptus often lie at no great distance from the surface soil, an adaptation of nature to the peculiar climatic conditions of the country. The finest specimens of most of the timber trees, those yielding the most valuable timber, are found on ridges and hill sides, in places frequently too rough and stony for cultivation. This circumstance is in many ways fortunate for the state. In the course of settlement, when the rich plains are denuded of their trees, and when scarcity will make timber more appreciated than it is at present, land not adapted for agricultural settlement will still be available for the cultivation of the finest trees. Amongst the many trees of commercial value, immense specimens of red gum (*E. rostrata*) and apple-trees (*Angophora subvelutina*), on the northern river flats, mark the course of the streams; while on the ridges and mountain sides other species predominate, such as the white or she-ironbark (*E. paniculata*), narrow-leaved ironbark (*E. crebra*), broad-leaved ironbark (*E. siderophloia*), mugga or red ironbark (*E. sideroxylon*), blackbutt (*E. pilularis*), white mahogany (*E. acmenoides*), tallow-wood (*E. microcorys*), spotted gum (*E. maculata*), grey box (*E. hemiphloia*), red mahogany (*E. resinifera*), grey gum (*E. punctata* and *E. propinqua*), forest red gum (*E. tereticornis*), and Sydney blue gum(*E. saligna*). Neither must turpentine (*Syncarpia laurifolia*), one of the most beautiful trees of the state, nor the brush box (*Tristania conferta*) of the northern rivers, a tree much in request for ornamental purposes, be forgotten.

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The brush forests cover a considerable extent of country along the coast. The trees found in them differ entirely from those of the open forests, and there is no lack of variety either in the character of the trees or the colour of their foliage. Tall graceful fern trees, sometimes attaining a height of 60 feet, beautiful species of palms, cabbage trees, and Moreton Bay figs of enormous proportions, are prominent features of the northern brushes, though these are perhaps more ornamental than useful. There are, however, found in the brush forests timber trees of the greatest value. Among these may be mentioned the red cedar (*Cedrela australis*), and its close allies rosewood (*Dysoxylon Fraseri-anum*) and red bean (*Dysoxylon Muelleri*), three of the most valuable woods of the state; beech (*Gmelia Leichhardtii*), a valuable little shrinking wood, now getting scarce; colonial or hoop pine (*Araucaria Cunninghamii*), a soft wood, not of the best quality; brown or berry pine (*Podocarpus elata*), which resists white ants and other timber pests in a marked degree. Besides the timbers mentioned, there are worthy of note the silky oak (*Grevillea robusta* and *Orites excelsa*), the red silky oak or beefwood (*Stenocarpus salignus*), tulipwood, flindosa or cudgerie, native teak, blue-berry ash, maiden's blush, red ash, corkwood, and many others too numerous to mention.

The character of the vegetation of the brush forests alters considerably according to the latitude. The trees of the genera Araucaria and Flindersia, as well as cedar and its allies, find a home chiefly in the northern parts of the state, while many of the trees growing in the south have no representatives in the northern forests. The soil of the brush lands is wonderfully fertile, consisting as it does of decomposed volcanic rocks, enriched by the accumulation of decayed vegetable matter, and when cleared it yields an abundant return.

The scrub forests are found in the poor soils, principally in the Lachlan and Darling districts. The chief genera represented are the pines, and multitudinous species of acacia and eucalyptus, but although some of the trees are of great beauty, they have little commercial value. The most uninviting portion of the state is covered with scrub, and the mallee districts, clothed as they are with stunted timber—species of eucalyptus—impress the traveller more unfavourably than would even a barren waste.

The specific gravity and resistance to breaking of various New South Wales timbers, and of some of the best-known European and other varieties, are shown in the following table. With regard to the New South Wales timbers, it should be mentioned that the tests were made with picked specimens, so that the results are perhaps considerably higher than would be obtained in actual practice. The modulus of rupture is eighteen times the load which is required to break a bar 1 in. square, supported at two points 1 foot apart, and loaded in the middle between the points of support, or

$$s = \frac{3\,W \cdot l}{2\,bd^3}$$

when W = load applied at middle of beam between supports, $b$ = breadth,

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$d$ = depth, $l$ = length of beam, and s = co-efficient of rupture or breaking stress per square inch :—

| Timber Trees. | Specific gravity. | Resistance to breaking or modulus of rupture. =s. |
|---|---|---|
| *New South Wales—* | | lb. per sq. inch. |
| Spotted gum | ·995 | 13,300 |
| Grey gum | ·917 | 13,100 |
| Flooded gum | 1·178 | 14,800 |
| Red gum | ·995 | 6,900 |
| Woollybutt | 1·022 | 12,700 |
| Blackbutt | 1·067 | 13,700 |
| White ironbark | 1·177 | 16,900 |
| Grey ironbark | 1·182 | 17,900 |
| Red ironbark | 1·224 | 16,300 |
| Forest oak | 1·208 | 15,500 |
| Turpentine | 1·109 | 11,700 |
| Stringybark | 1·141 | 13,900 |
| Blackwood | 1·129 | 10,300 |
| Tallow-wood | 1·233 | 15,260 |
| Australian teak | 1·096 | 14,400 |
| Mahogany | 1·201 | 14,500 |
| Forest mahogany | 1·156 | 13,800 |
| Swamp mahogany | 1·216 | 12,100 |
| White beech | 1·008 | 15,600 |
| Mountain ash | 1·065 | 11,500 |
| Rosewood | 1·189 | 10,600 |
| Pine | ·868 | 8,800 |
| *European and other Foreign—* | | |
| Ash | ·753 | 13,000 |
| Beech | ·690 | 10,500 |
| Birch | ·711 | 11,700 |
| Bullet-tree | 1·046 | 19,000 |
| Chestnut | ·535 | 10,660 |
| Ebony | 1·193 | 27,000 |
| Elm | ·544 | 7,900 |
| Fir, Red pine | ·48 to ·70 | 8,300 |
| ,, Spruce | ·48 to ·70 | 11,100 |
| ,, Larch | ·50 to ·56 | 7,500 |
| Greenheart | 1·001 | 22,000 |
| Kauri pine (New Zealand) | ·579 | 11,000 |
| Lance wood | ·675 to 1·01 | 17,350 |
| Lignum vitæ | ·65 to 1·33 | 12,000 |
| Mahogany (Honduras) | ·56 | 11,500 |
| ,, (Spanish) | ·85 | 7,600 |
| Oak (British) | ·69 to ·99 | 11,800 |
| ,, (Danzig) | ·69 to ·99 | 8,700 |
| ,, (American) | ·99 | 10,600 |
| Sycamore | ·59 | 9,600 |
| Teak (Indian) | ·66 to ·88 | 15,500 |
| Willow | ·40 | 6,600 |

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# CONSTITUTION AND GOVERNMENT.

THE present form of government was inaugurated forty-four years ago, the "Act to confer a Constitution on New South Wales, and to grant a Civil List to Her Majesty," having received the Royal assent on the 16th July, 1855. This important statute was proclaimed in Sydney on the 24th November of the same year, and at once came into operation, sweeping away entirely the former system, and constituting an elective representative Chamber—thus, by the granting of equal privileges, making the colonists of New South Wales the equals of their countrymen in other parts of the Empire. The ties which bound the state to the mother country were in no way loosened, for the Constitution Act simply conceded to the people of New South Wales the rights which prevailed in the United Kingdom, namely, of taxing themselves, and of being governed by Ministers responsible to a Parliament elected by popular vote. The authority vested in the Sovereign remains the same as before, though the mode of its exercise is widely different. Previous to Responsible Government, the Sovereign exercised, through the Governor, almost despotic power, this official uniting in himself the executive and legislative functions. Personal liberty and independence were, therefore, to no small degree in his control; but with the establishment of Responsible Government this state of things ceased, and the greatest measure of individual liberty is now found compatible with the full protection of public rights. The readiness with which the people of the state adapted themselves to the forms and practice of their new government was not a little remarkable, and fully justified their assumption of its privileges.

All laws are enacted in the name of the King, "by and with the advice of the Legislative Council and Legislative Assembly," the Governor, as the Royal Deputy, immediately giving the assent of the Sovereign to Acts of Parliament, or, if he should think fit, reserving them for the consideration of His Majesty. In order that the Constitution may be clearly understood, it will be well to consider, under distinct heads, the several elements of which the Government and Legislature consist.

## The Governor.

Previous to 1879 the Governor of the state was appointed by Letters Patent under the Great Seal; but in that year the practice was discontinued on the advice of Sir Alfred Stephen, given during the tenure of office of Sir Hercules Robinson. The change was first carried

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out in the appointment of Sir Augustus Loftus. The office of Governor is now constituted by permanent Letters Patent, and by a standing Commission, instead of as formerly by letters issued *pro hac vice* only. The Governor receives his appointment at present by Commission under the Royal sign manual and signet, which recites the Letters Patent of the 29th April, 1879, as well as the instructions issued (under sign manual and signet) in further declaration of the Queen's "will and pleasure." The original Letters Patent, thus recited and enforced, declare that the Governor is directed and empowered "to do and execute all things that belong to his office according to the tenor of the Letters Patent, and of such Commission as may be issued to him under our sign manual and signet, and according to such instructions as may from time to time be given to him under our sign manual and signet, or by our order in our Privy Council, or by us through one of our Principal Secretaries of State, and to such laws as are now or shall hereafter be in force in the colony." In accordance with a custom which has long prevailed, no Governor retains his office for a longer period than six years; and should he die or become incapable of performing his duties during his tenure of office, or be removed before the arrival of his successor, or should he have occasion to leave the state for any considerable period, the government is to be administered (1) by the Lieutenant-Governor; or, if there be no Lieutenant-Governor, (2) by an Administrator to be appointed according to the provisions of the Letters Patent and Instructions. The present Lieutenant-Governor is Sir Frederick Matthew Darley, G.C.M.G., C.J., who was appointed by a Commission, dated the 23rd November, 1891; and in recent years the duties of Administrator have been fulfilled by Sir John Lackey, K.C.M.G., President of the Legislative Council.

The Lieutenant-Governor, or, in his absence, the Administrator, is empowered by his Commission to fill the office of Governor during any temporary absence of the Governor from the state; but the Governor may not be absent from the state, except in accordance with the terms of his instructions. Without the King's special leave he may not leave the state for a period exceeding one month at a time, or exceeding in the aggregate one month for every year of his service, unless on a visit to the Governor of a neighbouring state; but, on the other hand, he may leave the state for any period not exceeding one month without its being reckoned as a departure, if he shall have previously informed the Executive Council in writing of his intention, and appointed a deputy to act for him till his return. This deputy must, in the first instance, be the Lieutenant-Governor; but if, from any cause, the services of the Lieutenant-Governor should not be available, the Governor may appoint whomsoever he pleases as his deputy.

The Governor's functions, according to the Letters Patent, Commission, and Instructions, may be recapitulated as follow:—

The Governor is the custodian of the Great Seal, under which all Crown grants, etc., must pass.



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The Governor has the appointment of his own Council—the Executive. He is also to summon that Council, and is ordinarily its President; but in his absence some other member may be nominated to preside. It is usual, however, to appoint some member of the Ministry permanent Vice-President, who presides in the absence of the Governor.

The Governor is the fountain of honour within the state, since to him belongs the power to appoint, in the King's name, all Judges, Justices of the Peace, Commissioners, and other "necessary officers and Ministers"; and, by virtue of his powers as Viceroy, he may remove from the exercise of his office any official so appointed.

The Governor is also the depositary of the prerogative of mercy within the state, having it in his power to pardon, either absolutely or conditionally, any offender convicted in New South Wales. He can also remit fines, penalties, and forfeitures due to the Crown, but he cannot pardon or remit on the condition of the offender voluntarily leaving the state, unless the offence has been a political one only. In all capital cases until recently the final responsibility of deciding whether or not the death penalty should be carried out rested solely with the Governor, but, by a new arrangement which has been agreed to by all the Australasian provinces, such final power is now exercised by the Governor "with the advice of the Executive Council." This places the procedure of these provinces, in regard to capital cases, on similar lines to the system that has for some time past been in force in Canada. Its adoption was suggested and strongly urged by Lord Onslow, the former Governor of New Zealand; and Lord Knutsford, the Secretary of State for the Colonies in the second Salisbury Administration, ascertained the views of the various Australasian provinces upon the subject. It being found that they all accepted the proposal as an improvement upon the practice then existing, a circular despatch was sent to each state with instructions for its adoption. The new system was first brought into operation in New South Wales towards the end of October, 1892.

The Governor is also vested with the authority of the Crown, enabling him to nominate the members of the Upper House of the Legislature, and to summon, prorogue to a future day, or dissolve "any legislative body" existing in the state. His instructions, however, provide that in the exercise of the above powers he is to act by the advice of the Executive Council in all cases except those whose nature is such that in his opinion the public service "would sustain material prejudice were he to follow such advice," or in matters too trivial to submit to the Council, or "too urgent to admit of their advice being given"; but in all such urgent cases he must communicate to the Council as soon as practicable the measures taken by him, and his reasons for acting. It is expressly provided, however, that the Governor may, if he think fit, disregard the advice of the Executive and act in direct opposition to the declared will of his advisers, but in such cases he is required to

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make a full report of the whole circumstances for the information of the Secretary of State for the Colonies.

The Governor acts as Viceroy as regards giving the Royal assent to or vetoing Bills passed by the Legislature, or reserving them for the special consideration of the Sovereign. The instructions deal at large with this matter, but it is usual in practice to be guided to a large extent by the advice of the law officers of the Crown. There are eight different classes of Bills, however, to which the Governor is bound to refuse the Royal assent. They are:—

(1.) Divorce Bills (that is, private bills divorcing particular persons).

(2.) Bills making any kind of grant, gratuity, or donation to the Governor.

(3.) Bills affecting the currency.

(4.) Bills imposing differential duties, which are not in accordance with the Australian Colonies Duties Act, 1873.

(5.) Bills apparently contrary to Imperial treaty obligations.

(6.) Bills interfering with the discipline or control of His Majesty's land or sea forces employed in the state.

(7.) Bills of great importance, or extraordinary in their nature, whereby the Royal prerogative, or the rights and property of His Majesty's subjects residing beyond the state, or the trade and shipping of the United Kingdom and its dependencies, may be prejudiced.

(8.) Bills containing provisions to which the Royal assent has already been refused, or which have been once disallowed, unless they contain a clause suspending their operation until the King's pleasure has been signified, or unless the Governor is satisfied that there is urgent necessity for bringing any such Bill into immediate operation, in which case he is empowered to assent to the Bill on behalf of the Sovereign, if it is not repugnant to the law of England, or inconsistent with Imperial treaty obligations; and in every such case he is required to transmit the Bill to His Majesty, together with his reasons for assenting to it.

The following Acts of Parliament regulate the action of the Governor in assenting to Bills on behalf of the King, or reserving them for the consideration of the Sovereign:—5 and 6 Vic., cap. 76, secs. 31–32; 7 and 8 Vic., cap. 74, sec. 7; and 13 and 14 Vic., cap. 59, secs. 13, 32, and 33. The effect of these enactments is to deprive any reserved Bill of all force and legality until the King's assent thereto has been formally communicated to the Governor; and power is given to His Majesty to veto any Bill to which the Governor has assented on his behalf within two years after the receipt of such Bill by the Secretary of State for the Colonies, in which case the Bill is to be declared null and void by message of the Governor, and proclamation. Reserved Bills are to be laid before His Majesty in Council, and the King may allow them or

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not within a period of two years from the day on which they were reserved by the Governor. The King's assent to reserved Bills may be transmitted by telegram.

By Act 7 Vic., No. 16, all Acts of Parliament which become law are required to be registered by the Registrar-General within ten days of their so becoming law.

The above is a summary of the powers and duties of the Governor, as defined by his instructions and the Letters Patent; but additional duties have been imposed upon him by the Constitution and Electoral Acts. In accordance with these enactments he must summon the Legislative Assembly; appoint the President of the Legislative Council; prorogue or dissolve Parliament; appoint his ministers *proprio motu*; also appoint, with the advice of the Executive, all public officers whose appointment is not vested in heads of departments; issue all warrants for the payment of money; issue the writs for general elections, and, in the absence of the Speaker, issue writs to fill vacancies occurring in the Assembly.

In summoning, proroguing, or dissolving Parliament, the Governor usually acts according to the advice tendered him by the Cabinet; but he is in no way bound to do so, and, as a matter of fact, he has sometimes declined to be guided by his Ministers. This, however, has never happened except in respect to granting a dissolution. As to summoning or proroguing, a difference of opinion is hardly likely to arise. The relations established between the Ministry and the representatives of the people are in accordance with the time-honoured precedents prevailing in Great Britain, which may be thus defined. The Cabinet must be chosen from—"(1) Members of the Legislature; (2) holding the same political views, and chosen from the party possessing a majority in the House of Commons; (3) carrying out a concerted policy; (4) under a common responsibility, to be signified by a collective resignation in the event of Parliamentary censure; and (5) acknowledging a common subordination to one Chief Minister."

The Imperial rule as to the circumstances under which a Government is bound to resign is as follows:—Censure, involving loss of office, rests entirely with the Lower House, or popular branch of the Legislature; hence, directly a Ministry fails to command a majority of the House of Commons, it must give place to another. Want of confidence in a Cabinet may be shown in three ways: first, by a direct vote of censure, or a specific declaration of want of confidence; second, by a vote disapproving of some act of the Government; or, third, by the rejection of some important measure introduced by the Ministry. In any of these cases Ministers must either resign, or appeal to the country if they can get the Sovereign to sanction a new election.

These rules have been virtually adopted in New South Wales, and the undoubted right of the Governor, as the depositary of the Royal prerogative, to refuse to grant a dissolution, if he think fit, has been more than once exercised. In March, 1877, Sir Hercules Robinson refused to grant a dissolution to Sir John Robertson, and in September

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of the same year he also declined to enable Sir Henry Parkes to go to the country. The reason alleged in each case was that the Assembly refused to make provision for the expenditure of the year. It will thus be seen that a grave responsibility is thrown upon the Governor in the exercise of the unquestioned right of granting or refusing a dissolution of Parliament, and in the cases mentioned it can hardly be doubted that Sir Hercules Robinson acted within his powers. The Viceroy is the conservator of the rights and interests of the whole population, and it must be evident that grave evils would ensue were a dissolution to take place before supplies had been granted.

The exercise of the prerogative of mercy is such an important function of the Governor, and he is so liable on some occasions to have strong pressure brought to bear upon him in connection with it, that it will be well to quote at length the instructions received a few years ago upon this point. The mode of procedure in capital cases has already been referred to, and in other cases the Governor is instructed not to pardon or reprieve any offender without receiving the advice of one, at least, of his Ministers; and in any case in which such pardon or reprieve might directly affect the interests of the Empire, or of any country or place beyond the jurisdiction of the Government of the state, the Governor must, before deciding as to either pardon or reprieve, take those interests specially into his own personal consideration in conjunction with such advice as aforesaid. In another part of his instructions the Governor is permitted to act in opposition to the advice of the Executive Council "if he see sufficient cause," but he is to report any such matter to the Sovereign without delay.

One exception to the rule that every exercise by the Governor of the Royal prerogative is practically subject to the control of the Legislature, occurs in connection with the exercise of his office as Commander-in-Chief of the land and sea forces. The Governor's powers in this regard are defined and regulated by the Military and Naval Forces Regulation Act of 1871, which, after providing for the raising and maintenance of a standing force, goes on to vest the supreme command in the "Governor," which title, in the interpretation clause, is defined to mean "the Governor with the advice of the Executive Council," *unless the context shall otherwise indicate.* Full powers with relation to the Volunteer Force are also bestowed on the Governor by the Volunteer Regulation Act of 1867, but in this, as in the former statute, "Governor" only means "the Governor with the advice of the Executive Council," *if this meaning is not inconsistent with the context or subject-matter.* It will at once be seen that these are both important limitations, as in certain imaginable contingencies the Governor is left free to act on his own responsibility. This places the Governor almost in the position of the Commander-in-Chief in England (when such an officer exists, which is very seldom, the control of the army usually being vested in Generals commanding-in-chief); that is, he has at times the absolute disposal of the armed force of the state. This power is peculiar to New South

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Wales, as in other British colonies the Governor possesses no more power over the military than he does over any civil department of the Service. The position of the Governor as Captain-General does not, however, give him power to take the direct command of Imperial troops, should any such be stationed in the state.

As regards the far more important power of the Governor to proclaim martial law, different opinions are held. But there is no doubt, as the power has not been conferred by any statute in force in the state, that, if it exists, it must be a matter of prerogative. The necessity for proclaiming martial law has happily never occurred since the advent of Responsible Government.

### The Executive.

The Executive Council is now composed of the following salaried Ministers, namely: the Chief Secretary, the Treasurer, the Attorney-General and Minister of Justice, the Secretary for Lands, the Secretary for Public Works, the Minister of Public Instruction and of Labour and Industry, the Secretary for Mines and Agriculture, with a Vice-President of the Executive Council, and two other members without portfolio. These form the Cabinet, and, of course, are responsible to Parliament. The Ministry, as the advisers of the Governor, must also retain his confidence; but, practically, this is seldom likely to be withdrawn, so long as they command a working majority in the Assembly. The Governor may dissolve Parliament although the Ministry have not sustained a defeat, and in this case the continued existence of any Government would depend directly on the vote of the constituencies, but such a contingency can happen but seldom.

Apart from the Vice-President of the Executive Council, who holds no portfolio, it is rare for more than one Minister to be selected from the Upper House, and it will thus be seen that the principle of the responsibility of members of the Government to Parliament is fully carried out. For every act of the Governor as Viceroy some Minister is responsible to Parliament; and even in matters of Imperial interest, where the final onus rests upon the Governor, he himself is responsible to the Imperial Government, whose members are under the control of the House of Commons, so that no loop-hole is left for the exercise of any arbitrary act. The Crown, except in two instances (appeals to the Privy Council, and the bestowal of titles), acts towards the Executive through its representative, the Governor; and so long ago as the inception of Responsible Government, Earl Grey declared, in an official despatch, that he should make "a judicious use of the influence, rather than of the authority, of his office," which wise maxim has usually been followed. But in extreme cases, such as when his sanction is requested to any illegal proceeding, the Governor is bound, without question, to keep the law, though he may thereby be brought into hostile relations with the Cabinet. Sir Michael Hicks-Beach, in a communication to the Governor-General of Canada in

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1879, clearly laid down the doctrine that the Governor of any British Colony "has an unquestionable constitutional right to dismiss his Ministers, if from any cause he feels it incumbent on him to do so." This does not militate against the doctrine of responsibility; for if the Ministry appointed by the Governor do not possess the confidence of Parliament, they cannot hold office, and the Governor will be forced to give way, or else persevere till he can select a Ministry whom the Assembly will accept. The final control will thus be, as in every other case, with the representatives of the people. In matters of routine the Governor will necessarily act on the advice of his Ministers, and in most cases relating to the internal economy of the departments, he will even adopt the individual recommendations of the Ministers by whom they are severally controlled.

As regards matters of purely Imperial interest, the Governor is responsible to the British authorities for their due conservation. If, in consequence of his action in any such matter, he is involved in a dispute with his Ministers, he is bound to refer them to the Sovereign, should his action have been endorsed by the Colonial Office. If his conduct were not approved of in England he would most likely be recalled. It follows from this, that in no case can the Governor be held to be responsible directly to Parliament for his conduct. His Ministers are responsible, but personally he has only to render an account to the Crown itself—that is, to the Imperial Parliament.

The Executive Council cannot discharge any function unless duly summoned by the Governor, and unless at least two members, in addition to the Governor or presiding member, be present to form a quorum. Formal minutes are, of course, kept of all proceedings.

The Executive Council, as at present constituted, is as follows :—

| | |
|---|---|
| Premier and Colonial Secretary ... | The Hon. John See. |
| Colonial Treasurer and Minister for Railways ..... | The Hon. Thomas Waddell. |
| Attorney-General and Minister of Justice ..... | The Hon. Bernhard Ringrose Wise, K.C. |
| Secretary for Lands ..... | The Hon. William Patrick Crick. |
| Secretary for Public Works..... | The Hon. Edward William O'Sullivan. |
| Minister of Public Instruction and Minister for Labour and Industry | The Hon. John Perry. |
| Secretary for Mines and Agriculture | The Hon. John Kidd. |
| Vice-President of the Executive Council..... | The Hon. Francis Bathurst Suttor. |
| Member of the Executive Council (without portfolio)..... | The Hon. James Hayes. |
| Member of the Executive Council (without portfolio)..... | The Hon. Walter Bennett. |

Since the introduction of Responsible Government there have been thirty Ministries; but as four of these became merged into those next succeeding without the resignation of their members, the actual number of cabinets holding power may properly be said to have been twenty-six, whose average tenure of office, excluding the Ministry at

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present in power, has been about one year and six and a half months. Ten Governments were displaced by votes of censure, expressed or implied; three resigned in consequence of defeat on important measures of policy; two retired on being saved from defeat only by the Speaker's casting-vote, and three others through a motion for the adjournment of the House being carried against them; four, as previously stated, were merged into the succeeding Ministries; five resigned without a direct vote being carried against them, but in consequence of not possessing a working majority; one Government fell to pieces through internal disagreements; and one resigned in consequence of the Governor declining to appoint to the Legislative Council a certain number of its nominees. The following is a list of the ministries that have held office, with the duration of power in each case:—

| No. | Ministry. | From | To | Duration. | |
|---|---|---|---|---|---|
| | | | | months. | days. |
| 1 | Donaldson | 6 June, 1856 | 25 Aug., 1856 | 2 | 19 |
| 2 | Cowper | 26 Aug., 1856 | 2 Oct., 1856 | 1 | 6 |
| 3 | Parker | 3 Oct., 1856 | 7 Sept., 1857 | 11 | 5 |
| 4 | Cowper | 7 Sept., 1857 | 26 Oct., 1859 | 25 | 20 |
| 5 | Forster | 27 Oct., 1859 | 8 Mar., 1860 | 4 | 11 |
| 6 | Robertson | 9 Mar., 1860 | 9 Jan., 1861 | 10 | 0 |
| 7 | Cowper | 10 Jan., 1861 | 15 Oct., 1863 | 33 | 7 |
| 8 | Martin | 16 Oct., 1863 | 2 Feb., 1865 | 15 | 18 |
| 9 | Cowper | 3 Feb., 1865 | 21 Jan., 1866 | 11 | 19 |
| 10 | Martin | 22 Jan., 1866 | 26 Oct., 1868 | 33 | 6 |
| 11 | Robertson | 27 Oct., 1868 | 12 Jan., 1870 | 14 | 16 |
| 12 | Cowper | 13 Jan., 1870 | 15 Dec., 1870 | 11 | 3 |
| 13 | Martin | 16 Dec., 1870 | 13 May, 1872 | 16 | 28 |
| 14 | Parkes | 14 May, 1872 | 8 Feb., 1875 | 32 | 26 |
| 15 | Robertson | 9 Feb., 1875 | 21 Mar., 1877 | 25 | 13 |
| 16 | Parkes | 22 Mar., 1877 | 16 Aug., 1877 | 4 | 24 |
| 17 | Robertson | 17 Aug., 1877 | 17 Dec., 1877 | 4 | 0 |
| 18 | Farnell | 18 Dec., 1877 | 20 Dec., 1878 | 12 | 3 |
| 19 | Parkes | 21 Dec., 1878 | 4 Jan., 1883 | 48 | 16 |
| 20 | Stuart | 5 Jan., 1883 | 6 Oct., 1885 | 33 | 2 |
| 21 | Dibbs | 7 Oct., 1885 | 21 Dec., 1885 | 2 | 14 |
| 22 | Robertson | 22 Dec., 1885 | 25 Feb., 1886 | 2 | 3 |
| 23 | Jennings | 26 Feb., 1886 | 19 Jan., 1887 | 10 | 24 |
| 24 | Parkes | 20 Jan., 1887 | 16 Jan., 1889 | 23 | 27 |
| 25 | Dibbs | 17 Jan., 1889 | 7 Mar., 1889 | 1 | 20 |
| 26 | Parkes | 8 Mar., 1889 | 22 Oct., 1891 | 31 | 16 |
| 27 | Dibbs | 23 Oct., 1891 | 2 Aug., 1894 | 33 | 11 |
| 28 | Reid | 3 Aug., 1894 | 13 Sept., 1899 | 61 | 10 |
| 29 | Lyne | 14 Sept., 1899 | 27 Mar., 1901 | 18 | 12 |
| 30 | See | 28 Mar., 1901 | Still in office. | ..... | |

The Robertson Ministry (No. 6) was merged into the Cowper Ministry (No. 7); the Robertson Ministry (No. 11) into the Cowper Ministry (No. 12); the Stuart Ministry (No. 20) into the Dibbs Ministry (No. 21); and the Lyne Ministry (No. 29) into the See Ministry (No. 30).

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## The Parliament.

It seems a singular omission in the Constitution Act that no definition is given of the relative powers of the Legislative Council and Legislative Assembly. Such is the fact, but little inconvenience has arisen thereby, since by common consent it has been agreed that the precedents regulating the proceedings and relations, *inter se*, of the two Houses of the Imperial Parliament shall be followed, as far as applicable, in New South Wales. The Constitution Act provides that all money Bills shall be introduced in the Lower House only. The important rule of the House of Commons, affirmed two hundred years ago and constantly enforced ever since, that "all aids and supplies, and aids to Her Majesty in Parliament, are the sole gift of the Commons, and it is the undoubted right of the Commons to direct, limit, and appoint in such Bills the ends, purposes, considerations, conditions, limitations, and qualifications of such grants, which ought not to be changed or altered by the House of Lords," is also held to be in force as regards the Parliament of this state, and has generally been recognised and acted upon.

The two Houses, however, do not possess the most important of the privileges of the Imperial Parliament, namely, the right of punishing for contempt, although the Legislative Assembly has, on one occasion, punished one of its members, by expelling him for conduct, beyond its precincts, assumed to be dishonourable. As regards disorderly conduct within the walls of the Chamber, it has been held by the Supreme Court, and affirmed by the Privy Council, that the Assembly only possesses the power of suspending a member for disorderly conduct for the period of the sitting at which he displays such conduct. A member may also be removed from the House by order of the Speaker if he persists in obstruction or contemns the Standing Orders; but fortunately this course has seldom been rendered necessary.

Witnesses may be summoned to give evidence before either House, or before committees of the Council or Assembly, the necessary powers for compelling their attendance having been conferred by an Act passed in 1881. Any person disobeying a summons may be arrested on a Judge's warrant; and the maximum penalty for refusing to give evidence is imprisonment for one calendar month.

The number of members of the Legislative Council is not limited by the Constitution Act, although the minimum number is fixed at twenty-one. It will be seen that this gives power to a Governor to quash any possible obstruction on the part of the Council to the will of the Government and the Lower House by "swamping" the Council. Such a proceeding, however, can hardly be held to be allowable, except under extreme circumstances. As a matter of fact, an attempt to "swamp" the Council was made during one of the premierships of Sir Charles Cowper, but public opinion condemned the course most strongly, although the somewhat peculiar circumstances of the case were thought at the time to justify the Governor's action. The

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authorities in England severely rebuked the Governor (Sir John Young) for the course he had taken, and since then "swamping" the Council has never been seriously entertained, nor is there much chance that it will ever again be attempted. The principle in fact has been affirmed, on the basis of an understanding entered into between Sir John Young and the leading statesmen of the day (on both sides of the House), that the members of the Legislative Council should be limited to a convenient number, and that no nominations should ever be made merely for the purpose of strengthening the party which happens to be in power. A deadlock between the two Houses is provided against by the universal feeling that the Assembly represents the will of the people, and in such case the Council would certainly have to give way to the deliberate will of the people's representatives. The Council is intended as a check to hasty legislation; and it doubtless acts as a useful "brake" to violent party feeling.

### The Legislative Council.

As before stated, the members of the Upper House are nominated by the Governor, the minimum number composing the House being fixed at twenty-one. No limit to the number is fixed by the Constitution Act, but, in accordance with the arrangement already described, the number of members is practically kept down by the exclusion of all purely political appointments. As the number of members of the Assembly has increased to 125, the number of members composing the Council in December, 1900, (75) cannot be considered an unfair proportion, as the ratio of increase has not been much greater than in the case of the Lower House. Every member of the Council must be of full age, and either a natural-born or a duly naturalised subject. Four-fifths of the members must be persons not holding any paid office under the Crown, but this is not held to include officers "in His Majesty's sea and land forces on full or half pay, or retired officers on pensions." Though the appointment is for life, a member may resign his seat, and he also forfeits it by absence from the House for two consecutive sessions without leave, by becoming naturalised in a foreign State, by becoming bankrupt, by becoming a public contractor or a defaulter, and by being attainted of treason or being convicted of felony or any infamous crime. The Governor appoints, and, if necessary, removes the President, who may speak in debate, but can only give a casting-vote. An attendance of one-third of the members on the roll was formerly necessary to constitute a quorum, but an Act has been carried reducing the proportion to one-fourth. The Council must hold a sitting at least once in every year, and no greater interval than twelve months must elapse between session and session. The proceedings are regulated by standing orders, which are, in the main, similar to those of the Assembly, the latter being framed on the model of the rules obtaining in the House of Commons. No member may sit or vote till he has taken the oath of allegiance, or the affirmation prescribed in lieu of that oath.

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### The Legislative Assembly.

In the Session of 1892–3, an Act was passed, entitled the Parliamentary Electorates and Elections Act of 1893, by which the course of procedure in regard to elections for the Legislative Assembly of New South Wales was almost entirely changed. The enactments under which such elections had been conducted up to that time—the Electoral Act of 1880, and the Wentworth Subdivision Act—were repealed upon the passing of the Act of 1893, with the exception of certain provisions which have since been abrogated by proclamation. During the year 1896 several important alterations were made in the 1893 Act in the direction of the extension of the franchise, and of the removal of restrictions placed upon electors changing their residence from one district to another. The main principles of the new electoral system may be thus summarised:—

The number of members of the Legislative Assembly, which had grown by virtue of the Expansion Clauses of the Act of 1880 from 108 to 147, was reduced to 125, and the number of electorates, now denominated Electoral Districts, was increased from 74 to 125. Under the new system, therefore, there are exactly as many members as electorates, or, in other words, there are single electorates. This, of course, involved a complete re-distribution of the electorates, and special machinery had to be created in order that this might be done. In accordance with the Act three Commissioners were appointed, to whom was entrusted the duty of dividing the state into 125 districts, each containing as nearly as might be the same number of electors. In order to ascertain the quota of electors to be apportioned to each electorate, the number of resident electors on the roll for 1892–3, which happened to be 282,851, was divided by 125, and the quotient, 2,263, was fixed as the standard number of electors entitled to one representative. In mapping out the new Electoral Districts, the Commissioners were required to form them so as to include the standard number of electors as nearly as possible; at the same time, in order to avoid inconvenient divisions, a margin of 200 voters either above or below the standard number was allowed, which margin it was permitted, in exceptional cases, to increase to 600 either way, on satisfactory reason for taking that action being furnished by the Commissioners. No adjustment of electorates has taken place since the first made under the Act of 1893; but the Act contemplates re-adjustments shortly after the taking of a census, and also, if necessary, every four or five years. The last census was taken on the 31st March, 1901.

The qualification for an elector is that he must be a natural-born subject who has resided in New South Wales for a continuous period of one year, or a naturalised subject who has resided in the state continuously for one year after naturalisation. It was provided in the principal Act that in either case he must have resided three months continuously in the electoral district for which he claimed to vote; but by the amending Act 60 Vic. No. 25 the period of residence was

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reduced to one month in the case of a person already on the rolls, and who had but removed from one district to another. Every such person, being of the full age of 21 years, and not otherwise disqualified, is entitled to have his name on the electoral roll, and to have an elector's right issued to him. The disqualifications, under the Constitution Act, apply to persons attainted or convicted of treason, felony, or other infamous offence in any part of His Majesty's dominions, unless they have received a free or conditional pardon, or have undergone the sentence passed on them for such offence; and, under subsequent enactments, to persons in the Naval and Military Service on full pay (except the militia and volunteers), and to persons of unsound mind, or in receipt of public charity. All other disqualifications have now been removed.

Power was given to the Governor under the Act of 1893 to subdivide each electoral district into divisions, and to appoint to each district an Electoral Registrar, with Deputy Registrars for the several divisions. It is one of the duties of these Registrars and Deputy Registrars to issue certificates known as electors' rights to those entitled to them. These electors' rights are printed in red ink upon paper specially prepared to prevent fraudulent imitations, with butts, like cheques, in accordance with the forms shown in Schedule A of the principal and amending Acts. They are bound in books, and numbered consecutively in black figures. Every person who has established his qualification to vote, and who has been placed on the electoral roll, is entitled to receive an elector's right upon signing his name in a book kept for that purpose, as well as on the butt and the face of the right itself. Under the principal Act an elector who removed from one district to another within three months of an election was practically disfranchised; but, as stated above, this period has now been reduced to one month, and until the elector is qualified to vote in the district to which he has removed he may use his right in his old district. Provision is also made for the issue of a substituted right in the event of a right being lost or defaced. Every elector's right remains in force until cancelled in the prescribed manner. It is provided by the amending legislation of 1896 that an elector who has changed his abode from one district to another may obtain a right for his new district after he has resided one month therein, and may have his name inscribed on the Additional Roll on a declaration by the Registrar of his original district stating that he was enrolled there. When the Registrar of any district grants an application for an elector's right other than in lieu of one held for another district, he inscribes the name of the elector in a Provisional List, copies of which, during the first week of each month, are exhibited at every post-office and police-office within the district, so that objection to any name may be taken and heard at the Revision Court of the district, to be presided over by a Stipendiary or Police Magistrate, specially appointed as a Revising Magistrate. All names passed at the monthly Revision Court are then inscribed on the Additional Roll.

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During the first week in August of each year, the Registrar must make out a general list of all persons on the electoral roll for his district, as well as of those to whom electors' rights have been issued since the last roll was printed; and copies of all such lists are exhibited for public inspection at every post-office in the electoral district. Any person objecting to any name upon the list must give to the Registrar, in writing, his reasons for such objection, and the Registrar must notify the same to the person to whom objection is taken. Every Registrar is supplied quarterly, by the District Registrar of Births, Deaths, and Marriages, with a list of all males above the age of 21 years whose deaths have been registered within the quarter in that particular district. As no provision is made for the exchange of these lists of deceased persons between different districts, it is possible for the names of electors who died outside their own districts to remain on the roll, and it is known that this often happens, unless sufficient proof of death is furnished by objectors. The Comptroller-General of Prisons and the Inspector-General of Police must forward quarterly to the Minister charged with the administration of the Act a list of all males above the age of 20 years in any gaol, lock-up, or other place of detention; and the Minister must send to the Registrar of each district such particulars as may be necessary for the purification of the electoral roll for such district. The Registrar must then write on a copy of the electoral roll, against the name of every person on the lists supplied to him as above, the words "dead" or "in custody, disqualified," or simply "in custody" where the particulars supplied do not appear to be such as to disqualify the person. Under the principal Act a Revision Court was held in October each year; but under the amending Act a monthly Revision Court is now held, at which objections may be heard, and claims for insertion on the lists considered; and from the lists, when duly corrected and certified to by the magistrate presiding at the Court, the electoral roll is printed. In the year 1900 and every third year thereafter the General List is to be made up from the butts of the electors' rights issued to persons "then" entitled to vote.

Writs for the election of members of the Assembly are issued by the Governor in the case of a general election, and by the Speaker, or, in his absence or if there should be no Speaker, by the Governor, in the case of a bye-election. The writs for a general election are required to be issued within four clear days from the proclamation dissolving Parliament, and are made returnable not later than thirty-five days from the date of issue. Parliament must meet not later than seven days from the return of the writs. The polling day for a general election is fixed as the eighteenth day from the date of the issue of the writs.

A person, to be qualified as a candidate, must be the holder of an elector's right. Each candidate must be nominated by at least six electors for the district. The nomination must be made in writing, signed by the nominators, and endorsed by the candidate, consenting

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to the nomination. No elector can have more than one vote in the state, or, in other words, the "one man one vote" principle is enforced. No elector can nominate more than one candidate. No deposit from a candidate is required. Proper provision is made for the appointment of Returning Officers, substitutes, deputies, poll-clerks, and scrutineers, much as in the Act of 1880. Under the principal Act the poll was open from 8 a.m. to 6 p.m. in the months from October to March inclusive, and from 8 a.m. to 5 p.m. from April to September inclusive; but under the Parliamentary Elections (Polling) Act (No. 20 of 1898) the poll remains open from 8 a.m. to 6 p.m., irrespective of the season of the year when the election is held. Every person claiming to vote must exhibit his elector's right, satisfy the Returning Officer that he is the person on the roll who should possess that right, and demand a ballot-paper. He is then furnished with a ballot-paper, containing the names of the candidates; and his elector's right, as well as the butt, is punctured to denote that he has voted at that election. The elector has then to retire to some unoccupied compartment of the polling-booth. there to strike out the names of all the candidates on the paper except the one for whom he votes, and the ballot-paper, folded so that the names are not visible, but that the puncture can be seen by the Returning Officer or his deputy, is placed by him in the ballot-box. No provision is made whereby an elector can record his vote if away from his own electorate, except where outside polling places have been appointed, under the provisions of the Act, before the issue of the writs. At the close of the poll the votes are counted, and the result declared by a notice signed by the Returning Officer, and posted in some conspicuous position in the principal polling place, and published in some newspaper circulating in the district.

Very stringent clauses against bribery, treating, or intimidation are included in the Act. It is even forbidden to make a wager on the result of an election under a penalty of from £5 to £50. There are also sections providing for the appointment of a Committee of Elections and Qualifications, with powers similar to those conferred by the Act of 1880.

The disqualifications for membership of the Legislative Assembly, provided by the Constitution Act, still remain in force. They are as follow:—

1. He must not be a member of the Legislative Council.
2. He must not hold any office of profit under the Crown, either for a term of years or during pleasure.
3. He must not be in any way interested in any contract for the public service.

By the Constitution Act Amendment Act of 1884, the disqualification of persons holding offices of profit was declared not to apply to the Colonial Secretary or any other member of the Ministry. The third disqualification also does not apply to any contract made by a company consisting of more than twenty persons. If any disqualified person be elected, the election is voided by the House, and should such person presume to sit or vote he is liable to a fine of £500.

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By an Act assented to on the 21st September, 1889, members of the Assembly are allowed the sum of £300 per annum to reimburse them for expenses incurred in the discharge of their Parliamentary duties.

Before taking his seat each member must take the oath of allegiance in the prescribed form, or make an affirmation in lieu of it. A member may resign his seat at any time, and he is held to have vacated it under any of the following conditions:—Absence during a whole session without leave, naturalisation in a foreign country, bankruptcy, being a defaulter, or convicted of treason, felony, or other infamous crime.

The Act 37 Vic. No. 7 provides that no Assembly can prolong its existence beyond the term of three years. One session, at least, must be held every year, and twelve months must not elapse between any two sessions. .On meeting after a general election, the first business is to elect a Speaker, who has only a casting vote. Twenty members (exclusive of the Speaker) constitute a quorum.

The first Parliament elected under the Constitution Act met on the 22nd May, 1856, just six months after the proclamation of the Constitution. The duration of Parliament, unless it should be previously prorogued, was originally fixed at five years; but in 1874 an Act was passed establishing triennial Parliaments, which has ever since remained law. Since the inauguration of Responsible Government there have been nineteen appeals to the people, so that it will be seen the duration of each Assembly has not averaged even the shorter period of life to which its existence is now limited. The subjoined table gives the duration of each Parliament elected under Constitutional Government:—

| Parliament. | Opened. | Dissolved. | Duration. | | | No. of Sessions. |
|---|---|---|---|---|---|---|
| | | | Yr. | mth. | dy. | |
| First | 22 May, 1856... | 19 Dec., 1857... | 1 | 6 | 27 | 2 |
| Second | 23 March, 1858... | 11 April, 1859... | 1 | 0 | 19 | 2 |
| Third | 30 Aug., 1859... | 10 Nov., 1860... | 1 | 2 | 11 | 2 |
| Fourth | 10 Jan., 1861... | 10 Nov., 1864... | 3 | 10 | 0 | 5 |
| Fifth | 24 Jan., 1865... | 15 Nov., 1869... | 4 | 9 | 22 | 6 |
| Sixth | 27 Jan., 1870... | 3 Feb., 1872... | 2 | 0 | 7 | 3 |
| Seventh | 30 April, 1872... | 28 Nov., 1874... | 2 | 6 | 29 | 4 |
| Eighth | 27 Jan., 1875... | 12 Oct., 1877... | 2 | 8 | 15 | 3 |
| Ninth | 27 Nov., 1877... | 9 Nov., 1880... | 2 | 11 | 13 | 3 |
| Tenth | 15 Dec., 1880... | 23 Nov., 1882... | 1 | 11 | 8 | 3 |
| Eleventh | 3 Jan., 1883... | 7 Oct., 1885... | 2 | 9 | 4 | 6 |
| Twelfth | 17 Nov., 1885... | 26 Jan., 1887... | 1 | 2 | 9 | 2 |
| Thirteenth | 8 March, 1887... | 19 Jan., 1889.. | 1 | 10 | 11 | 3 |
| Fourteenth | 27 Feb., 1889... | 6 June, 1891... | 2 | 3 | 10 | 4 |
| Fifteenth | 14 July, 1891... | 25 June, 1894... | 2 | 11 | 12 | 4 |
| Sixteenth | 7 Aug., 1894... | 5 July, 1895... | 0 | 10 | 29 | 1 |
| Seventeenth | 13 Aug., 1895.. | 8 July, 1898... | 2 | 10 | 26 | 4 |
| Eighteenth | 16 Aug., 1898... | 11 June, 1901... | 2 | 9 | 26 | 5 |
| Nineteenth | 23 July, 1901... | ..... | ..... | | | ... |
| | Average..... | | 2 | 4 | 7 | 3 to 4 |

At the first election under the new system in 1894, a total poll of 204,246 votes was recorded. The electors on the rolls numbered 298,817,

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and those in districts that were contested, 296,749 ; but these figures respectively included 43,015 and 42,644 names of persons who were not in possession of electors' rights, and who, indeed, could not be found. The poll, therefore, represented 80·37 per cent. of effective voters—by far the best percentage of votes recorded at a general election in New South Wales. The second election under the new Act gave a poll of 153,034 votes out of a total enrolment of 252,268 electors in contested constituencies, or, deducting 14,034 names of persons who could not be found, 238,233, the proportion of votes cast being 64·66 per cent. At the election held in July, 1898, 178,717 votes were recorded, the electors enrolled numbering altogether 324,338, and those in contested electorates only, 316,819, so that the percentage of votes recorded was but 56·41. This showed a marked decline from the average of the two preceding elections, especially from that of 1894, and it is difficult to offer any adequate explanation for this falling off in public interest. At both the 1894 and the 1898 election strong feeling was manifested; but it is worthy of consideration that whereas in 1894 there was a straight-out fight on the fiscal question, in 1898 no sharply defined issue was placed before the country—the question to be decided was chiefly which leader should carry out the negotiations for federation with the other states; the old party dividing-lines were for the time being obscured, and on the polling-day the novel grouping of the diverse political elements may well have proved sufficiently bewildering to cause the abstention of a large body of voters. However, there are other directions in which an explanation of the decline may partly be found. It is, in the first place, beyond question that the state of the electoral rolls was far from satisfactory. In 1894 the election was held soon after the rolls were made up, and the number of votes rendered ineffective by removals from one district to another and by death cannot have been large. In 1898 there were apparently 324,338 voters enrolled, as compared with 255,802 effective voters in 1894 ; but it is known that at the date of the election the additional rolls included the names of 22,339 persons (of whom 22,068 were in contested electorates) who had not been struck off the original rolls of the districts in which they had formerly resided ; while the names of a very large number of persons who had died outside their own districts, and notification of whose deaths was, therefore, not conveyed to the Registrars, must have remained on the rolls, as well as those of very many persons who had removed from one district to another and not taken the trouble to transfer their rights, and of others who had left the state. No doubt a large number of electors had also been disfranchised by removal in 1895, thus partly accounting for the falling-off at that election. Again, it is not at all certain that the policy of declaring election day a public holiday, which was followed in 1895, 1898, and 1901 is conducive to a heavy poll ; for it is well known that every absence from business is seized by many as an opportunity for leaving town, or otherwise utilising the whole day in holiday-making.

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Speaking generally, it may be said that the electors of the state display a considerable amount of interest in public affairs, and the percentage of votes cast is not far below that recorded in the United Kingdom, where momentous issues have been decided by a general election. It is true that in the United Kingdom the system of plural voting is still in force, and the number of non-resident voters is very large; but the elections there extend over a fortnight, while in New South Wales they are all held on one day, and, furthermore, in this state some of the electoral districts are of vast extent, and many electors can only record their votes at considerable personal inconvenience.

The number of males of full age compared with the total population is very large, the proportion at the last Census being 28 per cent. According to the official lists—which, however, as before stated, are known to be in an unsatisfactory state—the number of persons enrolled at the general election in 1901 amounted to 25·4 per cent., or over one-fourth of the total population. The average number of electors on the roll per member was 2,769, and the estimated population to each member was 10,931. The subjoined table gives the result of all the general elections which have taken place under Representative Government:—

| No. of Parliament. | Voters on Roll. | No. of Electors to a Member. | Total Members returned. | Members unopposed. | Votes on Roll in contested Electorates. | Votes recorded. | Percentage of Votes recorded. | Informal Votes. | Percentage of Informal Votes. |
|---|---|---|---|---|---|---|---|---|---|
| First ..... | 44,526 | 825 | 54 | * | * | * | * | * | * |
| Second ..... | 72,177 | 1,002 | 72 | 14 | 54,896 | 27,894 | 50·81 | * | * |
| Third ..... | 88,346 | 1,227 | 72 | 19 | 63,022 | 27,490 | 43·62 | 22 | 0·08 |
| Fourth..... | 106,189 | 1,475 | 72 | 19 | 75,676 | 28,340 | 37·45 | 29 | 0·10 |
| Fifth ..... | 119,872 | 1,665 | 72 | 15 | 90,736 | 44,311 | 48·84 | 31 | 0·07 |
| Sixth ..... | 128,734 | 1,788 | 72 | 11 | 108,080 | 56,331 | 52·12 | 102 | 0·18 |
| Seventh ..... | 151,798 | 2,108 | 72 | 8 | 125,488 | 60,004 | 47·82 | 80 | 0·13 |
| Eighth ..... | 160,843 | 2,234 | 72 | 10 | 104,575 | 57,651 | 55·13 | 334 | 0·58 |
| Ninth ..... | 160,945 | 2,205 | 73 | 16 | 120,698 | 62,172 | 51·51 | * | * |
| Tenth ..... | 188,500 | 1,745 | 108 | 14 | 140,848 | 90,657 | 64·36 | 1,785 | 1·97 |
| Eleventh ..... | 196,289 | 1,737 | 113 | 17 | 166,260 | 96,842 | 58·26 | 2,002 | 2·07 |
| Twelfth ..... | 232,190 | 1,900 | 122 | 8 | 203,669 | 124,378 | 61·07 | 2,564 | 2·06 |
| Thirteenth ..... | 256,406 | 2,068 | 124 | 17 | 226,228 | 131,062 | 57·93 | 2,275 | 1·73 |
| Fourteenth ..... | 280,160 | 2,045 | 137 | 13 | 257,763 | 154,924 | 60·10 | 2,641 | 1·70 |
| Fifteenth..... | 305,456 | 2,166 | 141 | 7 | 285,897 | 184,091 | 64·39 | 3,642 | 2·00 |
| Sixteenth..... | 298,817 | 2,296 | 125 | 1 | 296,749 | 204,246 | 68·82 | 3,310 | 1·62 |
| Seventeenth ... | 267,458 | 2,139 | 125 | 8 | 252,267 | 153,034 | 60·66 | 1,354 | 0·88 |
| Eighteenth ..... | 324,338 | 2,595 | 125 | 3 | 316,819 | 178,717 | 56·41 | 1,638 | 0·92 |
| Nineteenth ..... | 346,184 | 2,769 | 125 | 13 | 313,390 | 195,381 | 62·34 | 1,562 | 0·80 |

* Unrecorded.

The cost of the general election of 1894 was £25,989; of 1895, £20,405; of 1898, £15,976, and of 1901, £15,550. In addition to this



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expenditure, a sum of £22,547 was required in 1894 for the inauguration of the new electoral system, as allowances to Electoral Registrars and their deputies and to the police, and for printing and advertising; while from 1895 to 1898 the average annual expenses of the system amounted to about £12,750. Since the passing of the Act establishing triennial Parliaments, the average duration of the life of the Assembly has been under two years and four months. Taking the expenditure for this period at the average rate of the four years 1894–98—£14,700 per annum—and adding the mean cost of the last three general elections, a total of £53,865 is obtained as the cost of electing a Parliament of average duration under the present system. This gives an average of £431 for each of the 125 electoral districts into which the state is divided, and, on the basis of the 1898 figures, 3s. 4d. for every voter enrolled, and 5s. 9d. for each vote cast. Under the system previously in force the cost of electing a Parliament was, it is estimated, about £27,000, equal to £192 for each of the 141 members of the fifteenth Parliament, 1s. 9d. for each elector on the roll, and 2s. 11d. for each vote cast at the general election of 1891—the last which took place under the old system.

## Federation.

A notice of the Constitution and Government of New South Wales would be incomplete without some reference to the great question of Australian Federation, which has now reached its consummation. The federation of the various provinces was not overlooked by the framers of the first free Australian Constitution, who proposed the establishment of a General Assembly "to make laws in relation to those intercolonial questions that have arisen, or may hereafter arise," and who, in fact, sketched out a tolerably comprehensive federation scheme. Unfortunately, however, that proposition was included with another for the creation of hereditary nobility, and in the storm of opposition and ridicule with which the latter idea was greeted, the former sank out of sight. From time to time since Responsible Government was established the evil of want of union among the Australian provinces had been forcibly shown, and the idea of federation gradually became more and more popular. Some years ago the movement took such shape that, as the result of an intercolonial conference, the matter came before the Imperial Parliament, and a measure was passed, permitting the formation of a Federal Council, to which any province that felt inclined to join could send delegates. The first meeting of the Federal Council was held at Hobart, in January, 1886. The provinces represented were Victoria Queensland, Tasmania, Western Australia, and Fiji. New South Wales, South Australia, and New Zealand declined to join, but South Australia sent representatives to a subsequent meeting. The Council held eight meetings at which many matters of intercolonial interest were discussed,

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the last having been held in Melbourne early in 1899. One meeting every two years was necessary to keep the Council in existence. Being from its very inherent constitution only a deliberative body, having no executive functions whatever, the Federal Council possessed no control of funds or other means to put its legislation into force, and those zealous in the cause of federation have had to look elsewhere for the full realisation of their wishes.

An important step towards the federation of the Australasian colonies was taken early in 1890, when a Conference, consisting of representatives of each of the seven colonies of Australasia, was held in the Parliament House, Melbourne. The Conference met on the 6th February, thirteen members being present, comprising two representatives from each of the colonies, except Western Australia, which sent only one. The late Sir Henry Parkes, Premier and Colonial Secretary, and Mr. (now Sir) W. McMillan, Colonial Treasurer, represented New South Wales. Mr. Duncan Gillies, Premier of Victoria, was elected President. Seven meetings were held, the question of federation being discussed at considerable length; and in the end the Conference adopted an address to the Queen, expressing their loyalty and attachment, and submitting certain resolutions which affirmed the desirableness of an early union, under the Crown, of the Australian colonies, on principles just to all; that the remoter Australasian colonies should be entitled to admission upon terms to be afterwards agreed upon; and that steps should be taken for the appointment of delegates to a National Australasian Convention, to consider and report upon an adequate scheme for a Federal Constitution.

In accordance with the terms of that resolution, delegates were appointed by the Australasian Parliaments, and on the 2nd March, 1891, the National Australasian Convention commenced its sittings in the Legislative Assembly Chambers, Sydney, having been convened at the instance of Mr. James Munro, the Premier of Victoria. There were forty-five Members of the Convention altogether, New South Wales, Victoria, Queensland, South Australia, Tasmania, and Western Australia (which had only recently been placed in possession of the privilege of Responsible Government) each sending seven delegates, and New Zealand three. Sir Henry Parkes, then Premier of the mother colony, was unanimously elected President of the Convention; Mr. F. W. Webb, Clerk of the Legislative Assembly of New South Wales, was appointed Secretary; Sir Samuel Griffith, Premier of Queensland, was elected Vice-President; and the late Sir J. P. Abbott, Speaker of the New South Wales Legislative Assembly, was elected Chairman of Committees.

A series of resolutions was moved by the President, Sir Henry Parkes, setting forth certain principles necessary to establish and secure an enduring foundation for the structure of a Federal Government, and approving of the framing of a Federal Constitution; and after discussion

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and amendment the resolutions were finally adopted, affirming the following principles:—

1. The powers and rights of existing colonies to remain intact, except as regards such powers as it may be necessary to hand over to the Federal Government.
2. No alteration to be made in States without the consent of the Legislatures of such States, as well as of the Federal Parliament.
3. Trade between the federated colonies to be absolutely free.
4. Power to impose Customs and Excise Duties to be in the Federal Government and Parliament.
5. Military and Naval Defence Forces to be under one command.
6. The Federal Constitution to make provision to enable each State to make amendments in its Constitution if necessary for the purposes of Federation.

Further resolutions approved of the framing of a Federal Constitution which should establish a Senate and a House of Representatives—the latter to possess the sole power of originating money Bills; also a Federal Supreme Court of Appeal; and an Executive consisting of a Governor-General, with such persons as might be appointed as his advisers. On the 31st March, Sir Samuel Griffith, as Chairman of the Committee on Constitutional Machinery, brought up a draft Constitution Bill, which was fully and carefully considered by the Convention in Committee of the Whole, and adopted on the 9th April, when the Convention was formally dissolved.

The Bill of 1891 aroused no popular enthusiasm, and parliamentary sanction to its provisions was not sought in any of the colonies; federation fell into the background of politics, and although efforts were made by some of its zealous advocates to keep the movement before the public, it was left to Mr. G. H. Reid, Premier of New South Wales, a few years later, to rescue the cause from the position of obscurity to which it had been relegated by general apathy. It was the opinion of Mr. Reid that a greater measure of success could be secured by enlisting the active sympathies and aid of the electors, and with that object in view he invited the Premiers of the other colonies to meet in conference for the purpose of devising another scheme. At this Conference, which was held at Hobart in the beginning of 1895, all the Australasian colonies except New Zealand were represented. It was decided to ask the Parliament of each colony to pass a Bill enabling the electors qualified to vote for members of the Lower House to choose ten persons to represent the colony on a Federal Convention. The work of the Convention, it was determined, should be the framing of a Federal Constitution, to be submitted to the people for approval by means of the referendum.

During the year 1896 Enabling Acts were passed by New South Wales, Victoria, South Australia, Tasmania, and Western Australia; and were brought into operation by proclamation on the 4th January, 1897. On Anniversary Day, the 26th January, the writs were issued in New South Wales. The election was held on the 4th March, the representatives

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chosen by the people being:—Messrs. Edmund Barton, Q.C.; G. H. Reid, M.P. (Premier and Treasurer); J. H. Carruthers, M.P. (Minister for Lands); W. McMillan, M.P.; W. J. Lyne, M.P.; J. N. Brunker, M.P. (Chief Secretary); R. E. O'Connor, Q.C., M.L.C.; Sir J. P. Abbott, M.P. (Speaker of the Legislative Assembly); and Messrs. J. T. Walker and B. R. Wise. The Convention met in Adelaide on the 22nd March, and after drafting a Bill for the consideration of the various Parliaments, adjourned until the 2nd September. On that date the delegates re-assembled in Sydney, and debated the Bill in light of the suggestions made by the Legislatures of the federating colonies. In the course of the proceedings it was announced that Queensland desired to come within the proposed union; and in view of this development, and in order to give further opportunity for the consideration of the Bill, the Convention again adjourned. The third and final session was opened in Melbourne on the 20th January, 1898, the colony of Queensland being still unrepresented; and, after further consideration, the Draft Bill was finally adopted by the Convention on the 16th March for submission to the people.

In its main provisions, the Bill of 1898 followed generally that of 1891, yet with some very important alterations. It proposed to establish, under the Crown, a federal union of the Australasian colonies, to be designated the Commonwealth of Australia. A Federal Executive Council was created, to be presided over by a Governor-General appointed by the Queen. The Legislature was to consist of two Houses—a Senate, in which each colony joining the Federation at its inception was conceded the equal representation of six members; and a House of Representatives, to consist of, as nearly as possible, twice the number of Senators, and to which the provinces were to send members in proportion to population, with a minimum number of five representatives for each of the original federating states. The principle of payment of members was adopted, for the Senate as well as the House of Representatives, the honorarium being fixed at £400 per annum. The nominative principle for the Upper House was rejected, both Houses being elective, on a suffrage similar to that existing in each colony for the popular chamber at the foundation of the Commonwealth; but it was left to the Federal Parliament to establish a federal franchise, which, however, could only operate in the direction of the extension, not the restriction, of any of the existing privileges of the individual colonies. And while the House of Representatives was to be elected for a period of three years, Senators were to be appointed for twice that term, provision being made for half their number to retire every third year. The capital of the Commonwealth was to be established in federal territory.

To the federal authority was assigned power to deal with a large number of matters, with the provision that in case of conflict between Federal and State law the former should prevail. Customs and excise were to be taken over on the establishment of the Commonwealth; and posts and telegraphs, naval and military defence, lighthouses and

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lightships, beacons and buoys, and quarantine, on dates to be proclaimed, but without further legislation. A uniform tariff of Customs and Excise was to be imposed within a period of two years, intercolonial trade then to become absolutely free. As it was recognised that the transfer of the services mentioned would leave the states with large deficiences in their provincial finances, a provision was inserted in the Bill under which the Commonwealth was required to raise from Customs and Excise duties four times the sum needed from that source for its own purposes in the exercise of the original powers conferred upon it, and to hand the excess thus raised to the local treasuries. Other sources of revenue were left open to the Federal Treasurer, so that he should not be compelled to go to the Customs for the whole revenue which might be required. For five years after the imposition of the uniform tariff, it was provided that the surplus revenue raised should be returned to the states on the basis of their actual contributions—to be ascertained by a system of accounts—and thereafter in such proportions as might be considered fair by the Federal Parliament. The province of Western Australia, where the Customs revenue is exceptionally high, and is largely collected on the produce of the other colonies, was to be permitted to gradually relinquish its intercolonial duties during a period of five years, instead of abandoning them at once, and to retain the revenue thus secured for its own purposes. Power was given to the Commonwealth to take over the railways of the colonies with their consent, and to take over the whole or part of the State debts, applying the surplus Customs and Excise revenue to the payment of the interest charge thereon. The proper administration of all laws relating to the transaction of trade between the States of the Union was to be directed by an Inter-State Commission, on whom extensive powers were conferred. Provision was made for the prevention of the imposition of preferential and discriminating railway tariffs which might operate unjustly against a neighbouring colony, due regard always being paid, however, to the financial obligations of the State which had laid down the lines. The maintenance of the rivers in a state of navigability was recognised as coming within the trade and commerce provisions; but the people of a colony through which a river flows were not to be deprived of a "reasonable" use of its waters for conservation and irrigation purposes.

The right of originating Bills appropriating money or imposing taxation was reserved to the House of Representatives. These Bills could not be amended by the Senate; but the Upper House might suggest amendments or recommend the omission of any of their provisions, the House of Representatives dealing with these suggestions as it pleased. In all other matters of legislation, the two Houses were granted equal powers; and it was provided that in the event of any Bill being twice passed by the House of Representatives and twice rejected or shelved by the Senate, the two Houses could be simultaneously dissolved, and if this failed to provide a solution of the difficulty, a joint sitting might be held, at which the Bill in dispute could be adopted by a majority of

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three-fifths of the members present and voting at the joint sitting. The judicial power of the Commonwealth was vested in a High Court of Australia, empowered to hear appeals from all federal Courts or Courts having federal jurisdiction, from the Supreme Courts of the States, and from the Inter-State Commission. The right of appeal to the Privy Council in all cases not involving the interpretation of the Federal Constitution, or the Constitution of a State was not abrogated; but the Federal Parliament was empowered to limit the matters which might be taken to England. Appeal to the Privy Council on points of Constitutional law was forbidden. Lastly, the Federal Constitution could only be amended if the proposal were first adopted by an absolute majority of both the Senate and the House of Representatives, and afterwards accepted by means of the referendum both by a majority of the people of the Commonwealth and by a majority of the states.

Warmly received in Victoria, South Australia, and Tasmania, the Bill was viewed somewhat coldly by a section of the people of New South Wales, and this feeling rapidly developed into one of active hostility, the main points of objection being the financial provisions, equal representation in the Senate, and the difficulty in the way of the larger colonies securing an amendment of the Constitution in the event of a conflict with the smaller states. As far as the other colonies were concerned, it was evident that the Bill was safe, and public attention throughout Australasia was riveted on New South Wales, where a fierce political contest was raging, which it was recognised would decide the fate of the measure for the time being. The fears expressed by its advocates were not so much in regard to securing a majority in favour of the Bill, as to whether the statutory number of 80,000 votes necessary for its acceptance would be reached. These fears were proved to be well founded; for on the 3rd June, 1898, the result of the referendum in New South Wales showed 71,595 votes in favour of the Bill, and 66,228 against it, and it was accordingly lost. In Victoria, Tasmania, and South Australia, on the other hand, the Bill was accepted by triumphant majorities. Western Australia did not put it to the vote; indeed, it was useless to do so, as the Enabling Act of that colony only provided for joining a federation of which New South Wales should form a part.

The existence of such a strong opposition to the Bill in the mother colony convinced even its most zealous advocates that some changes would have to be made in the Constitution before it could be forced upon the people; consequently, although the general election in New South Wales, held six or seven weeks later, was fought on the federal issue, yet the opposing parties seemed to occupy somewhat the same ground, and the question narrowed itself down to one as to which should be entrusted with the negotiations to be conducted on behalf of the colony with a view to securing a modification of the objectionable features of the Bill. The new Parliament decided to adopt the procedure of sending the Premier, Mr. Reid, into conference armed with a series of resolutions affirming its desire to bring about the completion of federal

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union, but asking the other colonies to agree to the reconsideration of the provisions which were most generally objected to in New South Wales. As they left the Assembly, these resolutions submitted, first, that, with equal representation in the Senate, the three-fifths majority at the joint sitting of the two Houses should give way to a simple majority, or the joint sitting be replaced by a provision for a national referendum; second, that the clause making it incumbent upon the Federal Government to raise, in order to provide for the needs of the states, £3 for every £1 derived from Customs and Excise Duties for its own purposes, and thus ensuring a very high tariff, should be eliminated from the Bill; third, that the site of the federal capital should be fixed within the boundaries of New South Wales; fourth, that better provision should be made against the alteration of the boundaries of a state without its own consent; fifth, that the use of inland rivers for the purposes of water conservation and irrigation should be more clearly safeguarded; sixth, that all money Bills should be dealt with in the same manner as Taxation and Appropriation Bills; and seventh, that appeals from the Supreme Courts of the States should uniformly be taken either to the Privy Council or to the Federal High Court, and not indiscriminately to either; while the House also invited further inquiry into the financial provisions of the Bill, although avowing its willingness to accept these provisions if in other respects the Bill were amended. These were all the resolutions submitted by the Government to the House, but the Assembly appended others in respect to the alteration of the Constitution and the number of Senators, submitting, on the first of these points, that an alteration of the Constitution should take effect if approved by both Houses and a national referendum; that a proposed alteration should be submitted to the national referendum if affirmed in two succeeding sessions by an absolute majority in one House, and rejected by the other; and that no proposed alteration transferring to the Commonwealth any powers retained by a state at the establishment of the federation should take effect in that state unless approved by a majority of electors voting therein; and on the second point, that the number of senators should be increased from six to not less than eight for each state.

The Legislative Council adopted the resolutions with some important amendments, discarding the suggestion in the first resolution for a national referendum; submitting that the seat of the Federal Government should be established at Sydney; more clearly preserving the rights of the people of the colony to the use of the waters of its inland rivers for purposes of water conservation and irrigation; carrying all appeals from the Supreme Courts of the states to the Privy Council; and declining to affirm its preparedness to accept the financial scheme embodied in the Bill. Further, the House suggested that the plan of submitting proposed alterations of the Constitution to the people by means of the referendum should be altered, and that no rights or powers retained by a state should be afterwards transferred to the Commonwealth

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without the consent of both Houses of Parliament of that State. The New South Wales Premier decided to submit the resolutions of both Houses to the other Premiers in conference, attaching, however, greater importance to those of the Assembly, as embodying the views of a House which had just returned from the country. This conference was held in Melbourne at the end of January, 1899, Queensland being represented; and an agreement was arrived at whereby it was decided that, in the event of a disagreement between the two Houses of Parliament, the decision of an absolute majority of the members of the two Houses should be final; that the provision for the retention by the Commonwealth of only one-fourth of the Customs and Excise revenue might be altered or repealed at the end of ten years, another clause being added permitting the Parliament to grant financial assistance to a state; that no alteration in the boundaries of a State should be made without the approval of the people as well as the Parliament of that state; and that the seat of Government should be in New South Wales, at such place, at least 100 miles from Sydney, as might be determined by the Federal Parliament, and within an area of 100 square miles of territory to be acquired by the Commonwealth, it being provided that the Parliament should sit at Melbourne until it met at the seat of Government. A special session of the New South Wales Parliament was convened to deal with this agreement, and the Legislative Assembly passed an Enabling Bill, referring the amended Constitution to the electors. The Council, however, amended the Bill so as to, first, secure the postponement of the referendum for a period of three months; second, make it necessary for the minimum vote cast in favour of the Bill to be one-fourth of the total number of electors on the roll; third, defer the entrance of New South Wales into the Federation until Queensland should come in. These amendments were not accepted by the Assembly, and a conference between representatives of the two Houses was arranged; but this proved abortive, and twelve new members were appointed to the Upper House in order to secure the passage of the Bill. This course had the effect desired by the Government; for the Council passed the Bill on the 19th April, an amendment postponing the referendum for eight weeks being accepted by the Assembly. The vote on the Bill was, therefore, taken on the 20th June, 1899, the result of the voting being 107,420 votes in favour of the Bill, and 82,741 votes against it. The Bill was consequently adopted by a majority of 24,679 votes, and the necessary addresses having been passed by both Houses of Parliament, it was sent to London for approval by the Imperial Parliament. Victoria, Queensland, South Australia, and Tasmania also adopted the amended Bill with large majorities. Western Australia still hung back, but an Enabling Bill was eventually passed, and a plebiscite, taken on 31st July, 1900, resulted in a victory for the Bill.

Though the Bill was favorably received by the Imperial Government, certain amendments, the most important of which referred to the appeal

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to the Privy Council, were proposed by Mr. Chamberlain, Secretary of State for the Colonies. Four delegates were sent from the federating states to protest against any material alteration of the Bill. Mr. Chamberlain had proposed that, notwithstanding anything in the Constitution, the prerogative of Her Majesty to grant special leave to appeal to Her Majesty in Council might be exercised with respect to any judgment or order of the High Court of the Commonwealth or of the Supreme Court of any state. At the same time, he promised a reconstituted Court of Appeal for the Empire, in which the Australian colonies would find representation. The delegates, however, opposed with all their might the submission of constitutional disputes to the decision of the Privy Council under any pretext. A compromise was, therefore, agreed upon between the delegates and Mr. Chamberlain, by which the consent of the Executive Government or Governments concerned was made a necessary condition precedent to an appeal from the High Court to the Privy Council in such cases. The new clause provoked much hostile comment in the colonies, with the result that the Premiers cabled a rejection of the arrangement. A fresh compromise was then prepared, by which it was determined that the right of appeal to the Privy Council, where a constitutional point purely Australian in character was involved, might be conceded at its pleasure by the High Court. By this settlement the finality of the decisions of the High Court upon matters of constitutional interpretation is preserved. Accordingly, the Legislatures of the federating colonies agreed to the amendment. Thenceforward no further obstruction was offered to the passage of the Bill, and it received the Royal assent on the 9th July.

Lord Hopetoun, who at one time held office as Governor of Victoria, has been appointed first Governor-General of the Commonwealth of Australia. The proclamation of the new Commonwealth was made at Sydney on the first day of January, 1901.

New South Wales is represented in the Federal Parliament by six Senators and twenty-six members of the House of Representatives. The first election took place on the 29th March, 1901. The votes recorded for representatives numbered 215,105, including 4,070 informal votes out of about 330,000 electors. The total polling for the Senate was 1,130,068, representing 220,573 voters, including 38,674 informal votes. The percentage of informal votes for representatives was 1·9, while for senators it was no less than 17·5; the high percentage in the latter case resulting from the difficulty experienced by some voters in correctly marking the ballot-paper, so as to vote for the required number to be elected.

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# SHIPPING

## The Sydney Harbour Trust.

THE Sydney Harbour Trust Act, which came into force on the 1st November, 1900, was passed in order to make better provision for the management of the port of Sydney, to establish a Board of Commissioners, and to confer on such body certain powers in relation to the port, including power to levy and collect certain tolls, dues, rates, rents, and charges, and to purchase and resume lands; to vest certain property in the Commissioners; and for various other purposes. The three Commissioners were appointed a body corporate, with perpetual succession and a common seal, each member of the Board, subject to certain provisions, being entitled to hold office for seven years. The exclusive control of the port and shipping, lighthouses, beacons, buoys, wharfs, docks, &c., rests with the Commissioners, and the preservation and improvement of the port generally is vested in them. Power is given them to collect rates and charges in accordance with the Wharfage and Tonnage Acts and amending Acts, and all such statutes are *mutatis mutandis* incorporated with the Harbour Trust Act, and unless otherwise provided, all rates leviable under those statutes may be collected by the Commissioners.

## The Navigation Department.

The Navigation Amendment Act of 1899 abolished the Marine Board, and constituted a Department of Navigation and Courts of Marine Inquiry. The powers and duties of the Department and Courts were defined by this measure, and the Navigation Acts of 1871–1896 were amended to accord with the new jurisdiction.

## Quarantine.

The Board of Health have entire control of all matters relating to health, and may place in quarantine any vessel, should they deem it advisable to do so for the preservation of the public safety. In the course of the year 1900 the Government Health Officers at Sydney and Newcastle examined 783 vessels, of which 265 were detained for special action. The passengers examined numbered 7,406, and the crews of the vessels, 31,657. There is only one quarantine station in the state for persons. It is situated inside the north head of Port Jackson, and in equipment and suitability of position it is surpassed by few quarantine

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stations in the world. There are also two stations in Sydney Harbour —one at Bradley's Head and the other at Shark Island—and one at the port of Newcastle, where foreign live stock may be placed in quarantine ; and at Randwick there is another station for the isolation of Australian stock and horses imported from other countries. The regulations for the quarantine of animals are enforced by the Stock Branch of the Department of Mines and Agriculture.

## Increase in Shipping.

The records of the shipping trade of New South Wales, although carefully kept by the various Governors, are not available prior to the year 1822, the earlier registers relating to the statistics of the state having disappeared. There are in existence, however, numerous manuscript returns which record the shipping trade of the earlier years, and these will doubtless be published at some future date.

During the year 1822, the shipping amounted to 71 vessels entered, aggregating a tonnage of 22,924 ; and 60 vessels cleared, with a total tonnage of 20,793. Twenty-eight years afterwards, just before the separation of Port Phillip, the figures stood thus: 976 vessels entered, with a tonnage of 234,215, and 1,014 vessels cleared, with a tonnage of 263,849. In 1851, the year of the separation of Victoria from the parent state, the trade fell to 553 vessels entered, measuring 153,002 tons, and 503 vessels cleared, of 139,020 tons; but in 1860, the year following the separation of Queensland, the shipping amounted to 1,424 vessels entered, with a tonnage of 427,835, and 1,438 vessels cleared, of 431,484 tons—a considerable advance on the figures of the previous year. From 1860 to the present time trade has rapidly increased, and at a greater rate than the population. In 1891, the shipping entered amounted to 2,821,898 tons; but this quantity fell to 2,804,549 tons in 1892, and to 2,590,371 tons in 1893. In 1894, however, the shipping entered rose to 2,859,968 tons, but the increase of 269,597 tons on the measurement of the vessels which entered the ports during the previous year did not represent a corresponding enlargement of the import trade, as there was a large accession to the tonnage coming to the state in ballast—the bulk direct to Newcastle to load coal—probably in consequence of the scarcity of freights elsewhere in Australasia. However, the increase then witnessed has been more than maintained; every succeeding year has seen an addition to the shipping entering the ports of the state, and in 1900 the tonnage of 4,094,088 was reached —by far the largest amount recorded, and an increase on the figures of 1899 of 625,497 tons, 59,100 tons of which were represented by vessels bringing cargo. The large increase in the tonnage entering in ballast was to a great extent due to the arrival of transport steamers of large capacity engaged in the conveyance of troops and military stores to South Africa.

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The increase of shipping has been maintained at a fairly constant rate, though checked occasionally by the occurrence of bad seasons here, or the failure of prices in the European markets. The following table shows the quantity and tonnage of shipping arriving in and departing from New South Wales, at intervals of five years from the date of the earliest records to the year 1890, and for each of the succeeding years :—

| Year. | Entered. | | Cleared. | |
|---|---|---|---|---|
| | Vessels. | Tonnage. | Vessels. | Tonnage. |
| 1822 | 71 | 22,924 | 60 | 20,793 |
| 1825 | 85 | 24,559 | 75 | 22,688 |
| 1830 | 157 | 31,225 | 147 | 28,822 |
| 1835 | 260 | 63,019 | 269 | 66,964 |
| 1840 | 709 | 178,958 | 665 | 163,704 |
| 1845 | 597 | 105,352 | 614 | 103,961 |
| 1850 | 976 | 234,215 | 1,014 | 263,849 |
| 1855 | 1,152 | 353,323 | 1,185 | 362,482 |
| 1860 | 1,424 | 427,835 | 1,438 | 431,484 |
| 1865 | 1,912 | 635,888 | 2,120 | 690,294 |
| 1870 | 1,858 | 689,820 | 2,066 | 771,942 |
| 1875 | 2,376 | 1,109,086 | 2,294 | 1,059,101 |
| 1880 | 2,108 | 1,242,458 | 2,043 | 1,190,321 |
| 1885 | 2,601 | 2,088,307 | 2,583 | 2,044,770 |
| 1890 | 2,889 | 2,413,247 | 2,777 | 2,348,625 |
| 1891 | 3,021 | 2,821,898 | 3,100 | 2,872,338 |
| 1892 | 2,960 | 2,804,549 | 3,067 | 2,842,635 |
| 1893 | 2,914 | 2,590,371 | 2,916 | 2,602,957 |
| 1894 | 3,272 | 2,859,968 | 3,291 | 2,878,586 |
| 1895 | 3,121 | 2,929,758 | 3,090 | 2,930,280 |
| 1896 | 3,224 | 3,080,751 | 3,208 | 3,109,009 |
| 1897 | 3,345 | 3,331,877 | 3,120 | 3,412,554 |
| 1898 | 3,316 | 3,464,867 | 3,263 | 3,455,061 |
| 1899 | 3,219 | 3,468,591 | 3,199 | 3,526,960 |
| 1900 | 3,626 | 4,094,088 | 3,406 | 3,920,801 |

The shipping tonnage of New South Wales greatly exceeds that of any other province of the Australian group. Victoria stands next, after which come South Australia, Western Australia, New Zealand, Queensland, and Tasmania. Of the total shipping of Australasia in 1900, nearly one-third entered and cleared at New South Wales ports.

## Nationality of Vessels.

The trade of the state is, to a very large extent, carried on under the British flag, the deep-sea trade with the mother country and British possessions being in the hands of the shipowners of the United Kingdom, and the coasting trade chiefly in local hands. Since 1881, however, there has been a notable increase in foreign shipping, and at the present

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day the greater portion of the direct trade transacted with foreign ports is carried in vessels which are not British. This has been due to the appearance in the Australian trade of the steamers of the Messageries Maritimes in 1883, of those of the two German lines some time later, and more recently the vessels of the American and Japanese Companies. From the table given below, showing the expansion in British and foreign shipping during the last thirty years, it will be seen that the British tonnage entered and cleared in 1870 was 1,333,410, or 91·2 per cent. of the total of 1,461,762 tons; while in 1880 the proportion was as high as 92·9, British vessels representing 2,259,924 tons out of a total of 2,432,779. In 1885, however, the British shipping had fallen to 87·5 per cent., and in 1900, to 85 per cent., the foreign tonnage having increased from 172,855 to 1,168,397 during the twenty years which have elapsed since 1880:—

| Year. | British. | Foreign. | Total. |
|---|---|---|---|
| | tons. | tons. | tons. |
| 1870 | 1,333,410 | 128,352 | 1,461,762 |
| 1875 | 2,001,641 | 166,546 | 2,168,187 |
| 1880 | 2,259,924 | 172,855 | 2,432,779 |
| 1885 | 3,615,582 | 517,495 | 4,133,077 |
| 1890 | 4,156,963 | 604,909 | 4,761,872 |
| 1891 | 4,902,607 | 791,629 | 5,694,236 |
| 1892 | 4,977,850 | 669,334 | 5,647,184 |
| 1893 | 4,704,300 | 489,028 | 5,193,328 |
| 1894 | 5,191,971 | 546,583 | 5,738,554 |
| 1895 | 5,215,174 | 644,864 | 5,860,038 |
| 1896 | 5,432,892 | 756,868 | 6,189,760 |
| 1897 | 5,750,457 | 993,974 | 6,744,431 |
| 1898 | 5,999,998 | 919,930 | 6,919,928 |
| 1899 | 6,013,374 | 982,177 | 6,995,551 |
| 1900 | 6,846,492 | 1,168,397 | 8,014,889 |

Of the tonnage set down as British, the larger portion is owned or registered in Australasia. Prior to 1891, the returns do not allow of the colonial shipping being divided into that belonging to Australasia and that belonging to other British colonies; but in 1870, out of 1,333,410 tons of shipping entered and cleared under the British flag, 964,718 tons, or 72·3 per cent., belonged to British possessions, the great bulk being Australasian; in 1880, out of 2,259,924 tons of British shipping entered and cleared, 1,499,236 tons, or 66·3 per cent., belonged to British colonies; while in 1900 the shipping from and to British possessions

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amounted to 3,802,351 tons (of which 3,734,670 tons were Australasian) out of a total of 6,846,492 tons, or 55·5 per cent. The amount of British, Australasian, and other colonial shipping entered and cleared at New South Wales ports since 1870 was as follows:—

| Year. | Shipping belonging— | | | Total, entered and cleared. |
|---|---|---|---|---|
| | To United Kingdom. | To Australasia. | To British Possessions other than Australasia. | |
| | tons. | tons. | | tons. |
| 1870 | 368,692 | 964,718 | | 1,333,410 |
| 1875 | 740,683 | 1,260,958 | | 2,001,641 |
| 1880 | 760,688 | 1,499,236 | | 2,259,924 |
| 1885 | 1,520,091 | 2,095,491 | | 3,615,582 |
| 1890 | 1,577,172 | 2,579,791 | | 4,156,963 |
| 1891 | 1,813,716 | 3,029,067 | 59,824 | 4,902,607 |
| 1892 | 2,058,982 | 2,859,277 | 59,691 | 4,977,850 |
| 1893 | 1,808,340 | 2,866,967 | 28,993 | 4,704,300 |
| 1894 | 2,135,711 | 3,016,817 | 39,443 | 5,191,971 |
| 1895 | 2,244,650 | 2,882,579 | 87,945 | 5,215,174 |
| 1896 | 2,354,580 | 3,000,357 | 77,955 | 5,432,892 |
| 1897 | 2,269,226 | 3,414,588 | 66,643 | 5,750,457 |
| 1898 | 2,253,492 | 3,701,036 | 45,470 | 5,999,998 |
| 1899 | 2,337,468 | 3,603,266 | 72,640 | 6,013,374 |
| 1900 | 3,044,141 | 3,734,670 | 67,681 | 6,846,492 |

Compared with the figures just given, the tonnage of the foreign vessels trading with New South Wales is still small, although a great advance has been made during the last fifteen years. Taking the year 1900, for which the total tonnage of the principal nationalities is given below, Germany stands first, then France, then the United States. Norway and Japan are the only other nations whose carrying trade with the State is important.

| | Tonnage. |
|---|---|
| Germany | 351,064 |
| France | 249,302 |
| United States of America | 193,849 |
| Norway | 81,924 |
| Japan | 120,208 |
| Other nations | 172,050 |
| Total | 1,168,397 |

Of this amount of foreign shipping entered and cleared at the ports of the state in 1900, 852,181 tons traded direct with foreign countries, 126,173 tons with the United Kingdom and British possessions beyond Australasia, and the balance of 190,043 tons merely reflected the movements of vessels passing to and from the other Australasian

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provinces, almost one-half being tonnage in ballast coming round to New South Wales ports in search of freights. As compared with the 852,181 tons of foreign shipping which traded with foreign ports, the direct foreign trade carried under the British flag represented but 811,929 tons, of which 35,396 tons consisted of the South Sea Island trade conducted by Australasian vessels. Of the 4,414,207 tons of shipping entered from and cleared for the other provinces of Australasia during the year, 3,506,699 tons were registered in Australasia, and 907,508 tons in the United Kingdom and other British possessions; and of the 1,746,529 tons which represented the direct trade transacted with Great Britain and her other possessions, 154,073 tons were registered in Australasia, and 126,173 tons in foreign countries.

### Steam and Sailing Vessels.

The records prior to the year 1876 do not distinguish the steamers from the sailing vessels, but the modern tendency to supersede sailing vessels by steam has been abundantly apparent in the twenty-four years which have since elapsed. In 1876 the steam tonnage was 912,554 as compared with 1,215,171 tons of sailing vessels, being 42·9 per cent. and 57·1 per cent. respectively. The relative positions have long since been transposed, for the tonnage of sailing ships in 1900 was only slightly higher than the figures of 1876, being 1,523,397 tons, or but 19 per cent. of the total shipping, as compared with 6,491,492 tons of steam, or 81 per cent. of the whole. The increase of steam tonnage for the twenty-four years has, therefore, been over 611 per cent. The progress of the tonnage of each class will be seen from the following table :—

| Year. | Steam. | Sailing. | Year. | Steam. | Sailing. |
|---|---|---|---|---|---|
| | tons. | tons. | | tons. | tons. |
| 1876 | 912,554 | 1,215,171 | 1894 | 4,407,522 | 1,331,032 |
| 1880 | 1,550,372 | 882,407 | 1895 | 4,447,716 | 1,412,322 |
| 1885 | 2,791,843 | 1,341,234 | 1896 | 4,769,750 | 1,420,010 |
| 1890 | 3,654,814 | 1,107,058 | 1897 | 5,307,935 | 1,436,496 |
| 1891 | 4,299,791 | 1,394,445 | 1898 | 5,585,233 | 1,334,695 |
| 1892 | 4,329,634 | 1,317,550 | 1899 | 5,757,341 | 1,238,210 |
| 1893 | 4,227,186 | 966,142 | 1900 | 6,491,492 | 1,523,397 |

The advantage offered by the New South Wales trade to shipowners is illustrated by the large amount of tonnage coming to the state in

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ballast, and the small amount leaving without cargo. A large proportion of the vessels arriving in ballast come from the ports of the neighbouring states, where they have delivered a general cargo, and, having been unable to obtain return freight, have cleared for Newcastle to load coal. The largest amount of tonnage entered in ballast in any one year since 1870 was in 1900, when it reached 1,300,639 tons, while the tonnage cleared, amounting to 144,426 tons, was also considerably higher than that for any previous year recorded. The tonnage entered and cleared in ballast for the years shown was :—

| Year. | Entered. | Cleared. | Year. | Entered. | Cleared. |
|---|---|---|---|---|---|
| | tons. | tons. | | tons. | tons. |
| 1870 | 237,246 | 21,004 | 1894 | 852,205 | 76,799 |
| 1875 | 320,921 | 12,830 | 1895 | 852,813 | 58,152 |
| 1880 | 217,763 | 16,219 | 1896 | 902,106 | 80,377 |
| 1885 | 345,366 | 53,381 | 1897 | 905,928 | 80,271 |
| 1890 | 544,264 | 66,846 | 1898 | 974,257 | 65,983 |
| 1891 | 632,617 | 82,956 | 1899 | 734,242 | 81,433 |
| 1892 | 724,265 | 65,522 | 1900 | 1,300,639 | 144,426 |
| 1893 | 621,189 | 58,463 | | | |

## Value of Cargoes.

As might be expected from the fact that over 31 per cent. of the tonnage which arrived in the state in 1900 was in ballast, as against over 3 per cent. of the clearances, the average value of freights outward was higher than that of the vessels inward. The average value of the goods imported by sea was £5 13s. 7d. per ton, and that of the goods exported was £5 13s. 10d. If, however, allowance be made for shipping in ballast, the mean value of the exports was £5 18s. 2d., or 29 per cent. lower than the imports, which averaged £8 6s. 6d. per ton. New South Wales exports have, generally speaking, a high value per ton, and the fact that, when vessels entering and leaving in ballast are excluded, they have a lower average value than the imports, is due to the large amount of coal exported, the quantity for 1900 having been 3,369,332 tons weight—equivalent to over 2,287,000 tons measurement out of a total of 3,920,801 tons.

Under ordinary conditions the average value of exports from New South Wales largely exceeds that of the imports, but for the year 1900



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the averages were nearly equal. This was brought about chiefly by a decline in prices of pastoral products, and especially of wool, and to some extent also by delay in shipment of the staple :—

| Country. | Value of Imports per ton. | Value of Exports per ton. |
|---|---|---|
| | £ s. d. | £ s. d. |
| United Kingdom | 20 1 2 | 18 0 0 |
| Victoria | 1 1 10 | 1 12 0 |
| Queensland | 8 5 2 | 3 10 3 |
| South Australia | 0 14 6 | 1 15 8 |
| Western Australia | 0 14 11 | 2 13 6 |
| Tasmania | 3 4 2 | 2 12 4 |
| New Zealand | 5 4 8 | 2 8 6 |
| Other British possessions | 1 17 5 | 5 16 6 |
| Belgium, France, and Germany | 8 0 0 | 14 7 3 |
| United States of America | 15 0 1 | 30 0 1 |
| Other foreign countries | 3 16 6 | 1 11 1 |
| Average | 5 13 7 | 5 13 10 |

The trade with Belgium, France, and Germany has been grouped together in the table, as it is impossible to find the true average value of the trade of each of those countries, on account of the great bulk of the Belgian trade being carried in French and German bottoms. The greater part of the trade classed under "Other foreign countries" was transacted with various groups of islands in the South Seas and with South American countries. During 1900 the proportion of tonnage entering in ballast from Victoria was 44·3 per cent., from South Australia 32 per cent., and from Western Australia 49 per cent. of the arrivals, and this circumstance partly explains the low rate per ton of the imports from those states. As for the outward trade, the large quantity of coal shipped to the southern states lowers the general average value of the whole exports. The following are the average values of imports and exports per ton of shipping for the past ten years :—

| Year. | Average Value of Imports per ton. | Average Value of Exports per ton. | Year. | Average Value of Imports per ton. | Average Value of Exports per ton. |
|---|---|---|---|---|---|
| | £ s. d. | £ s. d. | | £ s. d. | £ s. d. |
| 1891 | 7 9 3 | 6 0 6 | 1896 | 5 13 2 | 5 17 4 |
| 1892 | 6 7 3 | 5 12 1 | 1897 | 5 6 11 | 5 12 10 |
| 1893 | 5 19 0 | 6 4 7 | 1898 | 5 8 5 | 6 16 2 |
| 1894 | 4 18 0 | 5 6 8 | 1899 | 6 7 7 | 6 13 2 |
| 1895 | 4 17 0 | 5 17 4 | 1900 | 5 13 7 | 5 13 10 |

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It will be noticed that the average value of imports per ton was higher in 1899 than in any year since 1891 shown in the table, while the exports also reached a very high figure. This was brought about by the fact that more favorable conditions in Victoria and other states enabled the farmers there to find an open market in New South Wales for their produce, while the high prices gained for wool and other products had a stimulating effect on the purchasing power of the community with respect to imports.

## Movements of Shipping.

The following table shows the yearly movements of tonnage, exclusive of the coasting trade, of some of the principal nations of the world, and also of New South Wales, with the rate of tonnage per head of population, the returns being made up to the latest date available :—

| Country. | Tonnage. | Per head of Population. | Country. | Tonnage. | Per head of Population. |
|---|---|---|---|---|---|
| United Kingdom... | 92,894,622 | 2·3 | Italy ..... ..... | 36,622,635 | 1·2 |
| France ..... | 33,563,852 | 0·9 | Spain ..... | 26,843,144 | 1·5 |
| Germany ..... ..... | 27,536,990 | 0·5 | United States..... | 43,592,049 | 0·6 |
| Norway..... | 6,297,606 | 2·9 | Arg'ntineRepublic | 14,070,560 | 3·1 |
| Sweden..... | 14,877,813 | 3·0 | Canada ..... | 13,237,054 | 2·7 |
| Netherlands..... | 17,325,827 | 3·5 | New South Wales. | 8,014,889 | 5·9 |

Of the tonnage engaged during 1900 in the outward trade of New South Wales, 11·7 per cent. went to the United Kingdom, though in value the exports to the mother country were 37·1 per cent. of the total. The tonnage of vessels to Victoria and the other Australasian provinces, including New Zealand, amounted to 55·5 per cent. of the whole, while in value the exports thereto reached only 22·2 per cent. As regards the other British possessions, the tonnage of vessels carrying goods to their ports amounted to 6·5 per cent. of the whole, while the value reached 6·7 per cent. In the case of foreign countries, the tonnage amounted to 26·3 per cent. and the value to 34 per cent. The following table shows the tonnage entered from and cleared for the United Kingdom, the British colonies, and some of the principal foreign countries, as well as the value of the cargoes; but it must be borne in mind that the figures represent the nominal tonnage of the vessels

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carrying the goods, and not the actual weight of the goods carried, which latter information it is impossible to obtain :—

| Country. | Entered. | | | | Cleared. | | | |
|---|---|---|---|---|---|---|---|---|
| | Tonnage. | | Value. | | Tonnage. | | Value. | |
| | Total. | Per cent. | Total. | Per cent. | Total. | Per cent. | Total. | Per cent. |
| | tons. | | £ | | tons. | | £ | |
| United Kingdom | 494,671 | 12·1 | 9,923,117 | 42·7 | 459,561 | 11·7 | 8,273,272 | 37·1 |
| Victoria | 974,824 | 23·8 | 1,062,182 | 4·6 | 805,106 | 20·5 | 1,289,768 | 5·8 |
| Queensland | 464,788 | 11·3 | 3,838,566 | 16·5 | 427,178 | 10·9 | 1,499,770 | 6·7 |
| South Australia | 363,025 | 8·9 | 262,782 | 1·1 | 290,172 | 7·4 | 517,584 | 2·3 |
| Western Australia | 198,843 | 4·9 | 147,908 | 0·6 | 166,558 | 4·3 | 445,974 | 2·0 |
| Tasmania | 170,997 | 4·2 | 548,478 | 2·4 | 144,049 | 3·7 | 376,979 | 1·7 |
| New Zealand | 257,642 | 6·3 | 1,348,605 | 5·8 | 341,068 | 8·7 | 826,662 | 3·7 |
| Other British Possessions | 536,786 | 13·1 | 1,005,154 | 4·3 | 255,511 | 6·5 | 1,488,235 | 6·7 |
| Belgium, France and Germany | 190,419 | 4·6 | 1,523,409 | 6·5 | 173,320 | 4·4 | 2,489,144 | 11·2 |
| United States | 170,492 | 4·2 | 2,557,961 | 11·0 | 132,695 | 3·4 | 3,981,242 | 17·8 |
| Other Foreign Countries | 271,601 | 6·6 | 1,038,745 | 4·5 | 725,583 | 18·5 | 1,126,747 | 5·0 |
| Total | 4,094,088 | 100·0 | 23,256,907 | 100·0 | 3,920,801 | 100·0 | 22,315,377 | 100·0 |

## Tonnage and Crews.

The average tonnage of vessels trading with New South Wales has steadily increased since 1845; prior to that year transports formed so large a portion of the shipping that the size of vessel was shown to be much greater than the average of those actually engaged in trade. The great improvement which has taken place may be traced in the following table :—

| Year. | Average tonnage of vessels. | Year. | Average tonnage of vessels. |
|---|---|---|---|
| 1825 | 295 | 1875 | 463 |
| 1835 | 246 | 1885 | 797 |
| 1845 | 173 | 1895 | 939 |
| 1855 | 306 | 1900 | 1,140 |
| 1865 | 329 | | |

Since 1870 the average tonnage of British and British-colonial vessels trading to New South Wales has increased by 296 per cent. in the one case and 212 per cent. in the other, while foreign vessels have increased in average tonnage by 259 per cent. during the same period. The advance in all classes during the period of thirty years has been very marked, as the following figures attest. The very large increase in tonnage from the United Kingdom during the last two years is in great

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measure due to the advent in these waters of the mammoth steamers of the White Star Line.

| Year. | British. | | Foreign. | Year. | British. | | Foreign. |
|---|---|---|---|---|---|---|---|
| | United Kingdom. | Colonial. | | | United Kingdom. | Colonial. | |
| | tons. | tons. | tons. | | tons. | tons. | tons. |
| 1870 | 706 | 306 | 449 | 1894 | 1,769 | 615 | 1,401 |
| 1875 | 742 | 379 | 557 | 1895 | 1,784 | 648 | 1,471 |
| 1880 | 1,031 | 476 | 732 | 1896 | 1,821 | 663 | 1,438 |
| 1885 | 1,312 | 602 | 997 | 1897 | 1,840 | 724 | 1,421 |
| 1890 | 1,624 | 600 | 1,330 | 1898 | 1,876 | 785 | 1,387 |
| 1891 | 1,680 | 709 | 1,263 | 1899 | 2,094 | 767 | 1,552 |
| 1892 | 1,696 | 684 | 1,302 | 1900 | 2,156 | 777 | 1,614 |
| 1893 | 1,766 | 647 | 1,477 | | | | |

The natural corollary to the increase in the size of vessel, the improvement in rigging and fittings, and the substitution of steam for canvas, is the decrease in the number of hands required per ton, though the actual number of hands employed per vessel has increased. In 1900 Australasian vessels carried an average of 25 men to every vessel, or 1 man to every 31 tons; vessels of other British possessions had an average crew of 17 men, or 1 man to every 71 tons; and British vessels from the United Kingdom carried an average complement of 53 men, or 1 man to every 40 tons; while foreign ships carried an average crew of 47 men, or 1 man to every 34 tons. In 1870 British ships carried 1 man to every 26 tons, intercolonial vessels 1 man to every 20 tons, and foreign vessels 1 man to 35 tons, the decrease in the tonnage per sailor in foreign vessels being due to the finer class of ships that began to trade here in 1883. The following figures show the average crews of British (United Kingdom and Colonial) and foreign vessels for the periods mentioned :—

| Year. | British. | | Foreign. | Year. | British. | | Foreign. |
|---|---|---|---|---|---|---|---|
| | United Kingdom. | Colonial. | | | United Kingdom. | Colonial. | |
| 1870 | 27 | 15 | 13 | 1894 | 50 | 22 | 52 |
| 1875 | 27 | 17 | 14 | 1895 | 48 | 23 | 52 |
| 1880 | 44 | 21 | 25 | 1896 | 49 | 22 | 47 |
| 1885 | 45 | 24 | 36 | 1897 | 53 | 23 | 46 |
| 1890 | 53 | 22 | 49 | 1898 | 53 | 25 | 46 |
| 1891 | 52 | 25 | 41 | 1899 | 57 | 25 | 50 |
| 1892 | 50 | 25 | 47 | 1900 | 53 | 24 | 46 |
| 1893 | 53 | 23 | 62 | | | | |

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## Principal Ports.

The relative importance of the various ports of Australasia may be ascertained by an inspection of the following table, which shows the shipping and trade of the principal Australasian ports for the year 1900. From these figures the rank of Sydney becomes evident. Melbourne apparently takes the first place in tonnage; but for purposes of comparison the figures should be reduced by a large amount—from 350,000 to 400,000 tons entered and a like quantity cleared, or altogether about 750,000 tons—to allow for the circumstance that the great ocean steamers whose terminal port is Sydney are reckoned once on the way round to New South Wales, and again when homeward bound for England. When this is taken into account, it is found that the shipping of Melbourne is exceeded by that of Sydney, as the Victorian port is also surpassed in the value of its trade. Newcastle occupies third place; for in the figures given for Port Adelaide the mail steamers are reckoned twice over, as in the case of Melbourne. It should be noted in respect to Queensland ports that the tonnage of vessels is recorded at every port of call, and on this account appears more important than it really is.

| Port. | Entered. | | Cleared. | |
|---|---|---|---|---|
| | Shipping. | Trade. | Shipping. | Trade. |
| | tons. | £ | tons. | £ |
| Sydney | 2,716,651 | 22,573,763 | 2,109,739 | 20,122,008 |
| Newcastle | 1,160,758 | 680,250 | 1,523,976 | 2,072,392 |
| Melbourne | 2,827,949 | 15,351,819 | 2,721,875 | 16,188,595 |
| Geelong | 63,688 | 162,223 | 150,682 | 412,289 |
| Brisbane | 639,415 | 4,197,314 | 703,399 | 2,412,250 |
| Rockhampton | 257,377 | 663,252 | 280,110 | 2,105,793 |
| Townsville | 419,378 | 953,642 | 414,174 | 2,152,335 |
| Bundaberg | 3,954 | 98,342 | 11,385 | 224,064 |
| Maryborough | 49,144 | 195,360 | 28,402 | 70,601 |
| Mackay | 187,947 | 77,666 | 187,341 | 205,124 |
| Adelaide | 1,519,902 | 4,739,483 | 1,408,135 | 4,363,971 |
| Port Pirie | 119,154 | 405,473 | 253,002 | 1,566,357 |
| Wallaroo | 78,638 | 65,052 | 25,232 | 385,881 |
| Port Augusta | 22,969 | 5,661 | 17,821 | 146,490 |
| Port Darwin | 71,420 | 139,666 | 71,715 | 162,219 |
| Fremantle and Perth | 522,152 | 5,489,493 | 536,657 | 4,016,038 |
| Albany | 1,032,435 | 184,819 | 994,435 | 2,190,234 |
| Geraldton | 3,014 | 143,109 | 6,266 | 94,542 |
| Hobart | 377,421 | 776,918 | 369,818 | 755,470 |
| Launceston | 99,822 | 808,326 | 84,567 | 707,053 |
| Strahan | 20,975 | 287,995 | 30,225 | 868,239 |
| Wellington | 213,874 | 2,767,066 | 277,503 | 2,345,395 |
| Auckland | 323,429 | 2,617,329 | 222,265 | 2,068,361 |
| Lyttelton and Christchurch | 67,633 | 1,770,709 | 104,584 | 2,522,912 |
| Dunedin | 81,266 | 2,158,177 | 19,500 | 1,478,071 |
| Invercargill and Bluff | 102,007 | 288,170 | 116,792 | 741,750 |
| Napier | 16,426 | 209,418 | 6,209 | 770,159 |

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The progress of the shipping trade of Sydney has been very uniform, the increase from the year 1860 being at an average rate of about 5½ per cent. per annum. The vessels registered as entered considerably exceed in tonnage those cleared at Port Jackson. To account for this it is only necessary to state that vessels leaving Sydney for Newcastle for the purpose of shipping coal are reckoned as departures from Newcastle, and not from Sydney. For this reason the clearances of Newcastle uniformly exceed the arrivals, as will be noticed in the subsequent table. The practice of clearing vessels at both ports at one time obtained, but has been abandoned for many years, and vessels are now cleared at the port which they last leave. The following statement shows the shipping entered and cleared at both Sydney and Newcastle for quinquennial periods from 1870 to 1890, and for consecutive years since the latter date. It will be seen that the total tonnage of Sydney increased by 720,000 tons between 1870 and 1880, and by 1,532,000 tons between 1880 and 1890, while during the last ten years the increase has amounted to 1,356,500 tons :—

| Year. | Sydney. | | Newcastle. | |
|---|---|---|---|---|
| | Entered. | Cleared. | Entered. | Cleared. |
| | tons. | tons. | tons. | tons. |
| 1870 | 385,616 | 364,758 | 283,091 | 383,242 |
| 1875 | 590,700 | 468,423 | 510,902 | 573,626 |
| 1880 | 827,738 | 641,996 | 400,598 | 516,480 |
| 1885 | 1,608,169 | 1,283,888 | 452,946 | 722,865 |
| 1890 | 1,644,589 | 1,356,632 | 625,398 | 842,180 |
| 1891 | 1,934,556 | 1,535,306 | 704,306 | 1,140,536 |
| 1892 | 1,896,677 | 1,594,108 | 729,167 | 1,024,318 |
| 1893 | 1,902,265 | 1,585,857 | 524,844 | 842,363 |
| 1894 | 1,959,435 | 1,612,179 | 721,931 | 1,035,930 |
| 1895 | 2,027,951 | 1,669,654 | 727,834 | 1,048,400 |
| 1896 | 2,104,613 | 1,806,438 | 783,669 | 1,084,220 |
| 1897 | 2,321,214 | 1,916,075 | 820,199 | 1,243,591 |
| 1898 | 2,406,473 | 1,898,845 | 868,062 | 1,298,592 |
| 1899 | 2,589,457 | 1,977,067 | 711,620 | 1,283,157 |
| 1900 | 2,716,651 | 2,102,739 | 1,160,758 | 1,523,976 |

The comparative importance of the trade of Sydney may be realised by viewing it in connection with the trade of the chief ports of the United Kingdom. It will be observed that in absolute tonnage Sydney is surpassed by only five English ports—London, Liverpool, Cardiff, Newcastle, and Hull; while in point of value of trade transacted it is exceeded by only London, Liverpool, and Hull. Twenty of the most important ports of the United Kingdom are shown in the following table, from the figures in which the coasting shipping and trade have been omitted. There is this important point to be observed, however, that were Australasia regarded as one country, the interstate trade would

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become coasting, and the figures for the New South Wales ports would have to be reduced accordingly:—

| Port. | Entered. | | Cleared. | |
|---|---|---|---|---|
| | Shipping. | Trade. | Shipping. | Trade. |
| England— | tons. | £ | tons. | £ |
| London | 9,437,950 | 164,105,695 | 7,091,125 | 88,178,166 |
| Liverpool | 6,152,187 | 110,192,919 | 5,665,813 | 97,282,907 |
| Cardiff | 5,193,243 | 3,352,191 | 8,227,112 | 8,684,421 |
| Newcastle | 2,528,109 | 6,536,191 | 3,642,611 | 7,533,595 |
| Hull | 2,509,262 | 28,822,898 | 2,075,921 | 22,724,029 |
| Southampton | 1,646,080 | 13,233,116 | 1,476,373 | 10,805,525 |
| Bristol | 764,787 | 11,245,263 | 386,434 | 1,387,949 |
| Dover | 982,062 | 8,518,522 | 1,019,069 | 2,966,829 |
| Grimsby | 966,624 | 7,758,075 | 944,889 | 11,155,210 |
| Harwich | 737,609 | 18,044,377 | 699,086 | 5,004,049 |
| Newport | 1,196,146 | 1,046,614 | 1,652,751 | 2,329,515 |
| Sunderland | 838,042 | 592,232 | 1,111,034 | 1,620,888 |
| North Shields | 430,869 | 1,075,542 | 412,169 | 720,889 |
| Newhaven | 385,878 | 10,739,665 | 379,932 | 3,060,965 |
| Scotland— | | | | |
| Glasgow | 1,460,700 | 13,257,002 | 2,152,234 | 15,939,342 |
| Leith | 968,482 | 12,116,737 | 827,244 | 4,583,353 |
| Kirkcaldy | 741,132 | 275,654 | 1,069,354 | 966,933 |
| Grangemouth | 706,497 | 2,656,205 | 828,354 | 2,454,018 |
| Ireland— | | | | |
| Belfast | 414,350 | 5,285,080 | 265,037 | 518,177 |
| Dublin | 249,160 | 2,565,817 | 77,792 | 73,652 |
| New South Wales— | | | | |
| Sydney | 2,716,651 | 22,573,763 | 2,109,739 | 20,122,008 |
| Newcastle | 1,160,758 | 680,250 | 1,523,976 | 2,072,392 |

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No other seaport of the state can be compared with either Sydney or Newcastle, though Wollongong now maintains a trade of some consequence, especially in coal; and of late years the importance of Eden, Twofold Bay, has increased. In 1900 the vessels which entered Wollongong direct from places outside the state were all in ballast, and totalled 97,931 tons; while at Eden the shipping entered amounted to 38,647 tons, and landed goods to the value of £2,894. The shipping cleared at Wollongong had an aggregate tonnage of 173,459, and at Eden 43,704, the value of the export trade at these two ports being respectively £111,945 and £3,486.

The average tonnage of sea-going vessels lying in the port of Sydney is about 80,000 per diem. The daily average at the port of Newcastle is about 35,000 tons. On the day on which the greatest number of ships are in port, in the wool season, the tonnage at Sydney is equal to about 125,000, and that at Newcastle to 84,000. The value of the shipping ordinarily moored or anchored in the port of Sydney may be set down at £2,000,000, and of that in the port of Newcastle at £500,000. The greatest value of shipping afloat in the two ports on any one day is about £4,500,000.

## River Shipping.

The trade borne by the rivers Murray and Darling varies greatly from year to year, according as they are favourable or otherwise for navigation. The Murray River is navigable during the greater part of the year, but the same cannot be said of the Darling, which as a rule can only be used by shipping during the period from March to September, when its volume is augmented by the flood-waters from the interior of Queensland. For the period over which the records extend both rivers have been navigable, and the tonnage at Wentworth on the Darling, at its confluence with the Murray, and at Moama and other Murray River ports, is given in the following table for the last ten years:—

| Year. | Tonnage entered at— | |
|---|---|---|
| | Wentworth. | Moama and other Murray Ports. |
| 1891 | 37,988 | 31,753 |
| 1892 | 31,071 | 28,781 |
| 1893 | 39,888 | 33,359 |
| 1894 | 47,224 | 41,403 |
| 1895 | 37,489 | 40,723 |
| 1896 | 38,623 | 36,800 |
| 1897 | 24,522 | 48,894 |
| 1898 | 22,319 | 39,919 |
| 1899 | 21,646 | 47,596 |
| 1900 | 20,466 | 58,867 |

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## Registration of Seamen.

Engagements and discharges of seamen are registered at the Government Shipping Offices at Sydney and Newcastle, and with the Customs officers at other ports. In 1900 there were 16,026 seamen engaged, and 13,961 discharged in Sydney; and 3,685 engaged, and 2,222 discharged in Newcastle; while in the course of the same year 834 seamen were reported at Sydney, and 627 at Newcastle, as having deserted from British vessels voyaging beyond Australasia. These engagements and discharges are exclusive of those of foreign vessels, business in connection with which is transacted by the various Consuls.

## Registration of Shipping.

During the year 1900, 908 steamers and sailing vessels, representing 122,435 tons net, stood registered in the books of the Custom House, as belonging to the port of Sydney. Of these, 450 were steamers, collectively of 71,229 tons net and 21,112 nominal horse-power. There were 49 steamers of 1,595 nominal horse-power and 2,572 net tons, and 51 sailing vessels on the register at Newcastle, their net tonnage being 6,776. The total tonnage registered in the state was 131,783, of which 73,801 was steam tonnage, with 22,707 nominal horse-power. These figures are exclusive of lighters, of which there were 52, of a total tonnage of 3,146, registered at Sydney; and 45, of an aggregate tonnage of 4,870, at Newcastle. A fee of £1 is charged for a lighter's license, which permits the boat to be employed for an indefinite period.

The total tonnage registered in New South Wales for the years shown was :—

| Year. | Steamers. | | | Sailing vessels. | | | Total. | | |
|---|---|---|---|---|---|---|---|---|---|
| | No. | Tons. | Crew. | No. | Tons. | Crew. | Vessels. | Tons. | Crew. |
| 1870 | 14 | 1,494 | 89 | 50 | 8,349 | 380 | 64 | 9,843 | 469 |
| 1875 | 37 | 3,903 | 286 | 93 | 12,197 | 556 | 130 | 16,100 | 842 |
| 1880 | 20 | 2,159 | 168 | 54 | 7,003 | 325 | 74 | 9,162 | 493 |
| 1885 | 50 | 6,387 | 394 | 49 | 4,876 | 280 | 99 | 11,263 | 674 |
| 1890 | 21 | 4,027 | 278 | 28 | 6,234 | 191 | 49 | 10,261 | 469 |
| 1891 | 40 | 5,239 | 351 | 53 | 9,492 | 280 | 93 | 14,731 | 631 |
| 1892 | 46 | 5,848 | 458 | 60 | 3,282 | 262 | 106 | 9,130 | 720 |
| 1893 | 33 | 4,200 | 288 | 32 | 5,972 | 231 | 65 | 10,172 | 519 |
| 1894 | 19 | 3,067 | 140 | 29 | 4,897 | 153 | 48 | 7,964 | 293 |
| 1895 | 13 | 5,172 | 186 | 13 | 1,363 | 85 | 26 | 6,535 | 271 |
| 1896 | 26 | 5,541 | 208 | 24 | 2,661 | 80 | 50 | 8,202 | 288 |
| 1897 | 20 | 8,220 | 223 | 29 | 6,378 | 185 | 49 | 14,598 | 408 |
| 1898 | 22 | 9,090 | 244 | 44 | 6,006 | 198 | 66 | 15,096 | 442 |
| 1899 | 18 | 2,909 | 137 | 56 | 6,364 | 249 | 74 | 9,273 | 386 |
| 1900 | 23 | 10,445 | 288 | 31 | 4,289 | 193 | 54 | 14,734 | 481 |

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During the year 1900 seven vessels, aggregating 287 tons, were sold to foreigners, and in consequence were removed from the registers of the state. Sales were also made to British subjects of 126 vessels, with a total tonnage of 15,623, which remained on the registers at Sydney and Newcastle.

### Passenger Steamers.

The Navigation Amendment Act of 1899 provides that all vessels, steam or sailing, passenger or cargo-carrying, shall receive certificates. Passenger certificates are renewable every six months, the fees payable being £1 for every vessel not exceeding 50 tons, £2 for over 50 and not exceeding 100 tons, £3 for over 100 and not exceeding 300 tons, and an additional £1 for every further 300 tons or part thereof. The amounts collected for all ports in 1900 were £1,114 for sea-going steamers and £475 for harbour and river steamers. The following table shows the number of certificates granted to passenger steamers during the last eight years:—

| Year. | Number of Steamers. | Tonnage of Steamers. | Passengers for which Certificates were granted. |
|---|---|---|---|
| 1893 | 240 | 64,593 | 55,195 |
| 1894 | 245 | 66,265 | 56,275 |
| 1895 | 231 | 63,361 | 52,397 |
| 1896 | 259 | 93,955 | 55,381 |
| 1897 | 256 | 108,619 | 55,415 |
| 1898 | 256 | 98,915 | 56,425 |
| 1899 | 253 | 89,279 | 55,106 |
| 1900 | 270 | 96,655 | 44,128 |

Of those licensed in 1900, 132 were sea-going steamers and 138 were engaged in harbour and river traffic. It will be seen that while the total number of steamers was higher in 1900 than in any preceding year, the passenger capacity was the lowest recorded for the period The reduction has been brought about by the action of the Navigation Department in considerably curtailing the certificated number of passengers on many steamers, and in refusing to grant full capacity certificates until the requirements of the regulations regarding life-saving apparatus had been complied with.

### Construction of Vessels.

The years 1883 and 1884 were marked by great activity in the construction both of sailing and steam vessels, 50 sailing and 52 steam vessels having been built in 1883, whilst 39 sailing vessels and 64 steamers were built in the subsequent year. Trade then became less

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active, and the industry showed a tendency to die out. In 1888 it had fallen lower than in any of the preceding years, and there has been little improvement since, the tonnage of sailing vessels built during 1900 being only 662, and of steamers 687, in all 1,349. The number and tonnage of vessels built in each of the years shown were as follow :—

| Year. | Steamers. | | Sailing vessels. | | Total. | |
|---|---|---|---|---|---|---|
| | No. | Tons. | No. | Tons. | Vessels. | Tonnage. |
| 1880 | 12 | 861 | 29 | 1,938 | 41 | 2,799 |
| 1883 | 52 | 5,368 | 50 | 1,885 | 102 | 7,253 |
| 1884 | 64 | 5,145 | 39 | 2,518 | 103 | 7,663 |
| 1885 | 36 | 2,992 | 29 | 800 | 65 | 3,792 |
| 1886 | 40 | 2,637 | 27 | 1,339 | 67 | 3,976 |
| 1887 | 16 | 778 | 14 | 636 | 30 | 1,414 |
| 1888 | 11 | 394 | 9 | 304 | 20 | 698 |
| 1889 | 14 | 663 | 9 | 204 | 23 | 867 |
| 1890 | 6 | 697 | 9 | 394 | 15 | 1,091 |
| 1891 | 13 | 767 | 27 | 573 | 40 | 1,340 |
| 1892 | 10 | 317 | 27 | 782 | 37 | 1,099 |
| 1893 | 7 | 236 | 11 | 563 | 18 | 799 |
| 1894 | 8 | 463 | 6 | 466 | 14 | 929 |
| 1895 | 4 | 259 | 5 | 481 | 9 | 740 |
| 1896 | 8 | 598 | 7 | 369 | 15 | 967 |
| 1897 | 9 | 631 | 12 | 832 | 21 | 1,463 |
| 1898 | 12 | 755 | 30 | 1,262 | 42 | 2,017 |
| 1899 | 11 | 748 | 35 | 890 | 46 | 1,638 |
| 1900 | 10 | 687 | 13 | 662 | 23 | 1,349 |

Schooners and ketches are the principal classes of sailing vessels built in the state, the general tonnage of each class averaging considerably under 100 tons burden. The tendency to supplant sailing vessels by steamers, and the substitution of iron for wood for the frames and hulls of vessels, have given a check to the wooden ship-building industry, which at one time promised to grow to important dimensions. Every kind of timber suitable for the construction of ships is found on the rivers of the coast districts of New South Wales, but as the demand for this description of vessel has not increased, little advantage can be taken of the resources of the state in this respect.

No reliable data have so far been procurable as to the number and tonnage of vessels built abroad for the New South Wales local trade, but the number must be considerable, and such vessels form an import of large value altogether lost sight of in the Customs returns. Some idea, however, of the large number imported may be gathered from the registration of the tonnage of other than New South Wales built vessels, which for the past ten years has averaged 4,150 tons sailing and 4,890 tons steam per annum.

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## Docks and Wharves.

Adequate accommodation is provided both by the Government and by private enterprise for fitting and repairing ships in the state. At Sydney there are three graving docks, five floating docks, and three patent slips, and another large graving dock is in course of construction. The proposed dock is to be 660 feet in length on the floor and the entrance 83 feet wide. At high-water there will be 28 feet of water on the sill and the berthing accommodation is to be 1,800 feet. At Newcastle there are two patent slips; besides which there are other docking and building yards in different parts of the state for the convenience of coasters and small craft. The principal docks and slips in Sydney, with their leading dimensions and the size of vessel they will accommodate, are stated below:—

| Name of Dock. | Where situated. | Length. | Breadth | Draught of vessel that may be taken. | Lifting power of patent slip or dock. |
|---|---|---|---|---|---|
| | | ft. | ft. | ft. in. | tons. |
| *Graving docks*— | | | | | |
| Sutherland (Government) | Cockatoo Island ... | 600 | 84 | 32 0 | ... |
| Fitzroy ,, ... | ,, ,, ... | 450 | 59 | 21 6 | ... |
| Mort's ..... | Balmain ..... ..... | 640 | 66 at top, 54 bot'm. | 19 0 | ... |
| *Floating docks*— | | | | | |
| Rowntree's ..... | Waterview Bay ... | 160 | 42 | 12 0 | 474 |
| Woolwich (Mort's)..... | Woolwich..... | 242 on blocks | 73 extreme | 14 0 | 1,500 |
| Jubilee (Mort's) ..... | Johnston's Bay ... | 317 | 55 | 15 0 | 1,500 |
| Johnston's Bay (Mort's).. | ,, ... | 100 | 23 | 7 3 | 120 |
| Drake's..... | White Bay ..... | 150 | 60 | 7 6 | 300 |
| *Patent slips*— | | | | | |
| Mort's No. 1 ..... | Balmain ..... | 270 | 30 | 11 ft. forward 17 ft. aft. | 1,500 |
| ,, No. 2 ..... | ,, ..... | 200 | 25 | 10 ft. forward, 16 ft. aft. | 1,000 |
| ,, No. 3 ..... ..... | ,, ..... | 80 | 13 ft. 8 in. | 5 3 | 40 |

The Sutherland Graving Dock at Cockatoo Island, the property of the Government, is one of the largest single docks in the world, and is capable of receiving vessels drawing 32 feet of water. During the year 1900, 158 vessels, of which 24 were British ships of war, were docked at Cockatoo Island, 83 being repaired in the Sutherland Dock, and 75 in the Fitzroy Dock, the gross tonnage of the vessels being 242,752. The dock receipts for the twelve months amounted to £7,850, and the expenditure to £2,907, exclusive of interest on cost of construction.

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For natural facilities for shipping Sydney stands unrivalled. The water deepens abruptly from the shores, so that the largest vessels may be berthed alongside the wharves and quays. Practically, the whole of the wharfage at Port Jackson is now under the control of the Sydney Harbour Trust. Along the shores of Sydney Cove magnificent echelon wharves have been constructed, which are capable of berthing vessels of 14,000 tons register. The depth of water at low tide ranges between 12 and 30 feet, and the wharves have an available frontage of 6,939 feet. At Pyrmont, Darling Harbour, and Woolloomooloo Bay the wharves are fitted with steam cranes and other appliances for the speedy discharge of the largest ships constructed. The appliances for handling cargo on the Pyrmont wharves, which are 2,510 feet in length, consist of four steam cranes of 10 tons each, while elevators have been erected to facilitate the loading of wheat, and on all the jetties the railway line is laid down. Powerful shipping appliances and roomy stores, as well as electric lighting, are to be found on all the important wharves, which are being rapidly extended and improved in order to keep pace with the growing shipping of the port. The total frontage of all wharves reaches about 8 miles.

Newcastle is also a well-equipped port, where vessels of 8,000 tons can be safely berthed; and every modern steam and hydraulic appliance for loading coal is found on its wharves. The Government own nearly all the wharfage, which extends 14,000 feet. The total length of the Bullock Island wharf is 7,760 feet, in addition to which there are four ballast jetties each 50 feet long. 5,550 feet of the wharf is used for the shipment of coal. There are 12 hydraulic cranes of from 9 to 25 tons, each capable of shipping 2,000 tons of coal in twenty hours; and 3 steam cranes of 15 tons each capable of shipping 1,200 tons of coal per day of twenty hours. On the town side of the harbour there are 3,506 feet of Government wharves, extending in a continuous line, 2,066 feet being set apart for cargo berths for deep-draught vessels, 940 feet for general cargo, and 500 feet for passenger steamers. The wharf at Stockton is 600 feet long. It is entirely used for the shipment of coal, and has one 15-ton steam crane and one shoot. The length of the private wharves is 1,500 feet. In addition to the appliances mentioned, there are three private shoots for the loading of coal. By the port regulations, steamers are required to receive coal at the steam cranes on Bullock Island at the rate of 500 tons per day, and at the rate of 750 tons at the hydraulic cranes. Sailing vessels are expected to receive at least 400 tons per day from the steam cranes, and 500 tons per day from the hydraulic cranes. It is estimated that 25,000 tons of coal per day can be shipped at Newcastle when all the appliances belonging to the Government and private companies are brought into use after allowance has been made for time taken in moving vessels, shunting coal trucks, etc. There are also two patent slips owned by private individuals, capable of taking up vessels of 100 and 1,000 tons respectively. At the harbour of Wollongong

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vessels drawing 11 ft. 6 in. of water can be berthed. The wharfage measures 1,680 feet, and a large cargo shed, 5 coal shoots, 3 cranes, and 1 derrick, are available for the use of shipping. Staiths, cranes, and other coal-shipping appliances have been erected at Bulli, Coal Cliff, and other places. Private as well as Government wharves are found at all the chief centres of population along the rivers of the state, and all ports with a trade of any importance have their jetties and shipping facilities.

### Shipping Dues.

The total revenue derived from shipping dues in 1900 amounted to £188,205, of which £134,851 was collected at the port of Sydney, and £40,693 at Newcastle. Wharfage rates accounted for £73,190, and nearly the whole of this sum was collected at Sydney; harbour and light rates produced £31,546; pilotage, £24,649; rent of jetties, £24,041; tonnage rates, £19,558; and removal dues, £9,242; while the balance, consisting of £5,979, was made up of bonding and storage charges, steamer certificate fees, licenses of lighters, and water, cranage, and weighbridge charges.

### Lighthouses.

The coast of New South Wales is well provided with lighthouses, the number at the end of 1900 being 23, besides which there were 21 leading lights and light-ships for the safety of harbour navigation. The total expenditure in connection with lighthouses up to the end of 1900 was £253,790, of which £205,767 was expended on buildings and repairs, £27,152 on lanterns, and wages and miscellaneous expenses absorbed £20,871. On the 1st May, 1899, a first order triple-flashing white light was shown on the tower erected at Point Perpendicular, Jervis Bay. This light is visible 20 miles from seaward. The South Solitary Island lighthouse cost the largest sum to construct, namely, £31,259, exclusive of the amount paid for lanterns. The Macquarie revolving electric light, on the South Head of Port Jackson, is one of the most powerful lights in the world, being visible 25 miles at sea.

### Shipwrecks.

The coast of New South Wales is free from any source of danger to vessels navigating it, and where reasonable precautions were taken wrecks have been very rare. There are only two lifeboat stations on the coast, one at the Sydney Heads, and the other at Newcastle; but the whale-boats at the various pilot stations have been fitted with cork linings, and otherwise made useful for the work of rescue, in which many of them have been of excellent service. The steam tugs subsidised by the Navigation Department for the towing of ships in and out of port, are also available for the purpose of rendering assistance to vessels in distress; and life-saving appliances are kept at certain places along the coast.

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The wrecks reported in 1900 numbered 11, and of the crews and passengers, numbering 86, four lost their lives. The total tonnage of the vessels was 3,792, and the value, including cargoes, £30,810. The greatest loss of life during the year occurred at the wreck of the schooner Empress of India, near Forster, on 23rd July, when three of the crew were drowned by the swamping of a boat in which they were endeavouring to reach the shore. On the 21st April the explosion of the boiler on the steamer Young Charlie, in Woolloomooloo Bay, was responsible for the remaining death. The other vessels which met with disaster, fortunately unattended by loss of life, were the Sarah Fenwick, steamer, 57 tons; Hennie de Fraine, schooner, 87 tons; Jane, schooner, 51 tons; Harvester, barque, 1,378 tons; Gleaner, schooner, 115 tons; Cynthia, schooner, 120 tons; Brothers, cutter, 14 tons; Coraki, steamer, 326 tons; and Lodore, ship, 1,568 tons.

The following statement shows the number of vessels which were wrecked on the coast of New South Wales, or otherwise within the jurisdiction of the state, during the last ten years:—

| Year. | Under 50 tons. | 50 to 100. | 100 to 200. | 200 to 300. | 300 to 400. | 400 to 500. | Over 500 tons. | Unregistered. | Steam. | Sailing. | Total. | Lives Lost. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1891 | 3 | 10 | 3 | ... | ... | 1 | 1 | ... | 2 | 16 | 18 | 47 |
| 1892 | 4 | 5 | 2 | ... | ... | ... | ... | ... | 4 | 7 | 11 | 16 |
| 1893 | 4 | 3 | 6 | 1 | 1 | ... | ... | ... | 4 | 11 | 15 | 4 |
| 1894 | 5 | 10 | 1 | ... | 1 | ... | 1 | ... | 6 | 12 | 18 | 10 |
| 1895 | 4 | 4 | ... | ... | ... | 1 | 2 | ... | 5 | 6 | 11 | 63 |
| 1896 | 1 | 4 | 2 | 2 | ... | ... | ... | ... | 5 | 4 | 9 | 2 |
| 1897 | 4 | 5 | 1 | ... | 1 | ... | 3 | ... | 2 | 12 | 14 | 3 |
| 1898 | 3 | 11 | 4 | 3 | ... | ... | 4 | 1 | 9 | 17 | 26 | 79 |
| 1899 | 3 | 2 | 1 | ... | ... | ... | 3 | 1 | 6 | 4 | 10 | ... |
| 1900 | 2 | 4 | 2 | ... | 1 | ... | 2 | ... | 3 | 8 | 11 | 4 |

During 1900, one inquiry was held by the late Marine Board of New South Wales with reference to stranding, while eighteen were conducted by the Court of Marine Inquiry, constituted under the provisions of the Navigation Amendment Act of 1899. Five investigations were held of shipwrecks, one with reference to stranding, three as to foundering, one concerning boiler explosion, one capsizing, and seven with regard to collisions. Masters were censured in nine cases, in three of which they were ordered to pay costs, while they were exonerated in five cases. In two cases master's certificates were suspended for twelve months, the mate being censured in one instance. In one case the mate's certificate was suspended for three months, and in another the owner and engineer were exonerated.

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### Dredging Fleet.

To keep open and improve the harbours and coastal rivers the Works Department, during the year ended 30th June, 1900, had employed 12 ladder dredges, with an attendant fleet of 30 punts having an aggregate tonnage of 9,010; 12 grab dredges; 10 sand-pump or suction dredges; and 7 combined grab and sand-pump dredges. Besides the dredging plant there were 20 tugs employed towing punts to sea, and on other service appertaining to dredging operations. The work done and the cost for the financial year ended 30th June, 1900, for each class of dredge were as follow :—

| Class of Dredge. | Tons Dredged. | Hours Dredging. | Expenditure. | | | | |
|---|---|---|---|---|---|---|---|
| | | | Dredging only. | | | Dredging and Towing. | |
| | | | Total. | Per ton. | Per hour. | Total. | Per ton. |
| | | | £ | pence. | £ s. d. | £ | pence. |
| Ladder ..... | 2,857,423 | 20,509 | 40,161 | 3·37 | 1 19 2 | 56,210 | 4·72 |
| Sand Pump .... | 3,902,276 | 12,432 | 35,026 | 2·15 | 2 16 4 | 35,040 | 2·16 |
| Grab and Sand Pump. | 980,815 | 12,753 | 11,600 | 2·84 | 0 18 2 | 11,654 | 2·85 |
| Grab .. ..... . | 414,989 | 20,125 | 9,870 | 5·71 | 0 9 10 | 10,698 | 6·19 |
| Total ..... | 8,155,508 | 65,819 | 96,657 | 2·84 | 1 9 4 | 113,602 | 3·33 |

The material dredged consisted for the most part of sand and mud, but stiffer material was raised by some of the dredges. The details show that while the average cost of dredging by ladder dredges was 3·37d. per ton, more than one-fourth of the total raised cost not more than 1·67d., and the most expensive dredging was at the rate of 5·99d. The cost of raising material by grab dredges was on an average 5·71d. per ton, the least cost being 2·21d. for sand and mud. A considerable quantity of rock and indurated sand was removed by these dredges, otherwise the average cost would not have been so high. The seven combined grab and sand-pump dredges were employed at an average cost of 2·84d. per ton, or at the rate of 18s. 2d. per hour when pumping. The sand-pump dredges, ten in number, removed 3,902,276 tons during 12,432 hours, at the rate of 314 tons for each dredge per hour, the average cost being £2 16s. 4d. an hour, or 2·15d. per ton. At the Macleay River the expenditure was as high as 13·91d. per ton, the presence of large quantities of roots seriously hampering the dredging operations.

### Fares and Freights.

Looking at the extensive passenger traffic and shipping trade of New South Wales, it would naturally be expected that a liberal scale of fares and freights would be in force, and this will be found actually to exist. In many instances, indeed, the inter-state rates have been extremely low, owing to the keen competition among the various steamship companies. The advance in price of coal in 1899, however, has had the



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effect of considerably raising both interstate and European rates. The following figures will give an idea of the average passenger rates by steamer during 1900:—

| Ports. | Fares. First Class. | Fares. Second Class. |
|---|---|---|
| **NEW SOUTH WALES PORTS.** | £ s. d. | £ s. d. |
| Bateman's Bay | 1 0 0 | 0 10 0 |
| Bellinger River | 1 10 0 | 0 15 0 |
| Byron Bay | 1 10 0 | 1 0 0 |
| Clarence River | 1 10 0 | 0 12 6 |
| Eden | 1 10 0 | 0 15 0 |
| Macleay River | 1 10 0 | 0 12 6 |
| Manning River | 1 5 0 | 0 10 0 |
| Nambucca River | 1 10 0 | 0 15 0 |
| Newcastle | 0 5 6 | 0 3 0 |
| Port Macquarie | 1 10 0 | 0 12 6 |
| Ballina | 1 10 0 | 0 12 6 |
| Coraki | 1 12 6 | 0 15 0 |
| Lismore | 1 15 0 | 0 17 6 |
| Ulladulla | 0 15 0 | 0 10 0 |
| Wollongong | 0 4 0 | 0 2 6 |
| **VICTORIAN PORT.** | | |
| Melbourne | 2 0 0 / 2 10 0 | 1 0 0 |
| **QUEENSLAND PORTS.** | | |
| Burketown | 15 5 0 | 7 5 0 |
| Bowen | 6 0 0 / 7 10 0 | 3 15 0 |
| Brisbane | 2 8 0 / 3 0 0 | 1 0 0 |
| Bundaberg | 3 0 0 / 3 15 0 | 1 10 0 |
| Cairns | 7 0 0 / 8 10 0 | 4 10 0 |
| Cooktown | 9 10 0 | 5 0 0 |
| Mackay | 5 12 0 / 7 0 0 | 3 10 0 |
| Maryborough | 3 0 0 / 3 15 0 | 1 10 0 |
| Mourilyan Harbour | 8 10 0 | 4 10 0 |
| Normanton | 13 10 0 | 6 15 0 |
| Rockhampton | 4 0 0 / 5 0 0 | 2 0 0 |
| Townsville | 6 8 0 / 7 15 0 | 4 0 0 |
| Thursday Island | 12 15 0 | 6 5 0 |
| **SOUTH AUSTRALIAN PORTS.** | | |
| Adelaide | 3 15 0 | 1 15 0 |
| Port Darwin (Northern Territory). | 18 0 0 | 12 0 0 |
| **WESTERN AUSTRALIAN PORTS.** | | |
| Albany | 8 0 0 | 4 10 0 |
| Perth (Fremantle) | 8 0 0 | 4 10 0 |
| **TASMANIAN PORTS.** | | |
| Hobart | 2 10 0 | 1 5 0 |
| Launceston | 2 10 0 | 1 5 0 |

| Ports. | Fares. First Class. | Fares. Second Class. | Fares. Third Class. |
|---|---|---|---|
| **NEW ZEALAND PORTS.** | £ s. d. | £ s. d. | £ s. d. |
| Auckland | 6 0 0 | 3 10 0 | .... |
| Dunedin (via Cook Strait) | 7 10 0 | 4 5 0 | .... |
| Lyttelton " " | 6 15 0 | 3 15 0 | .... |
| Napier (via Auckland) | 7 10 0 | 4 5 0 | .... |
| Wellington | 6 0 0 | 3 10 0 | .... |
| **EUROPEAN PORTS.** | | | |
| Antwerp | 62 14 0 / 71 10 0 | 35 4 0 / 40 14 0 | 15 8 0 |
| Bremen | | | |
| Brindisi | £55 to £65 | £32 to £37 | £14 14 to £17 17 |
| Genoa | 57 4 0 / 66 0 0 | 31 18 0 / 37 8 0 | 14 17 0 |
| London | £66–£77 | 38 10 0 / 40 14 0 | 17 7 0 / 20 16 0 |
| Marseilles | 65 0 0 | £32 to £37 | 20 0 0 |
| Naples | £50–£65 | £30 to £37 | £13/10 to £17/17 |
| Southampton | 62 14 0 / 71 10 0 | 35 4 0 / 40 14 0 | 15 8 0 |
| Venice | £55–£65 | £32 to £37 | .... |
| **EASTERN PORTS.** | | | |
| Aden | 45 0 0 | £30 to £33 | £8 10–£15 |
| Bombay | 40 0 0 | £25 to £27 10s. | 13 10 0 |
| Calcutta | 40 0 0 | £25 to £27 10s. | 13 10 0 |
| Madras | 40 0 0 | £25 to £27 10s. | .... |
| Colombo | 35 0 0 | £25 to £27 10s. | 10 0 0 |
| Hong Kong | 33 0 0 | 23 0 0 | 15 0 0 |
| Java | 27 0 0 | .... | 10 10 0 |
| Penang | 30 10 0 | .... | 15 15 0 |
| Port Moresby | 22 10 0 | 14 0 0 | .... |
| Shanghai | 37 10 0 | 26 0 0 | 18 0 0 |
| Singapore | 38 0 0 | 27 0 0 | 18 0 0 |
| Mauritius | 52 0 0 | 35 12 0 | 17 16 0 |
| Port Said | £53–£63 | £31 to £36 | 16 16 0 |
| Reunion | 51 0 0 | 35 0 0 | 17 12 0 |
| Yokohama | 37 10 0 | 26 8 0 | 17 15 0 |
| **PACIFIC PORTS.** | | | |
| Aneityum | 10 10 0 | 6 0 0 | .... |
| Fiji (Suva and Levuka) | 10 0 0 | 6 0 0 | .... |
| Havannah (New Hebrides) | 12 0 0 | 7 0 0 | .... |
| Honolulu | 30 0 0 | 12 0 0 | .... |
| Noumea | 10 0 0 | 7 0 0 | 3 12 0 |
| Samoa Islands | 20 0 0 | .... | 10 0 0 |
| San Francisco | 40 0 0 | 22 10 0 | 16 0 0 |
| Tonga Islands | 16 0 0 | 9 10 0 | 4 10 0 |
| Vancouver | 40 0 0 | .... | 16 0 0 |
| **SOUTH AFRICAN PORTS.** | | | |
| Cape Town | 31 10 0 | .... | £13/13—£17/17 |
| Natal | 31 10 0 | .... | £13/13—£17/17 |

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Fares by sailing vessels are in nearly every instance a matter of private arrangement between the captain of the vessel and the intending passenger, but the number of such passengers is becoming smaller from year to year owing to the great decrease in steamer fares. Fares from Sydney to London are, however, given as £35 to £45 first class, and £18 to £22 second class; and from Newcastle to San Francisco, as £20 to £25.

The freights paid for the carriage of wool to London determine, within certain limits, the freight of most other produce. The present average cost of carriage of greasy wool to London is ½d. per lb.; in 1834 the average was somewhat over 3d. Information regarding freights is not available for early years, but since 1857, as the following figures show, the freights on pressed greasy wool have fallen 20 per cent. The freights are in every case for sailing ships, as the practice of shipping wool by steamers was by no means general until recent years.

| Year. | Freight per lb. | Year. | Freight per lb. | Year. | Freight per lb. |
|---|---|---|---|---|---|
| 1857 | ⅝d. | 1872 | ⅝d. | 1887 | ⅜d. |
| 1858 | ⅝d. | 1873 | ⅝d. | 1888 | 7/16d. |
| 1859 | ⅝d. | 1874 | ⅝d. | 1889 | 7/16d. |
| 1860 | ⅝d. | 1875 | ⅜d. | 1890 | 7/16d. |
| 1861 | ⅝d. | 1876 | ½d. | 1891 | 7/16d. |
| 1862 | ⅝d. | 1877 | ⅜d. | 1892 | 11/32d. |
| 1863 | ⅝d. | 1878 | 7/16d. | 1893 | 11/32d. |
| 1864 | ⅝d. | 1879 | ½d. | 1894 | 11/32d. |
| 1865 | ½d. | 1880 | 11/16d. | 1895 | 11/32d. |
| 1866 | ⅝d. | 1881 | ⅞d. | 1896 | 5/16d. |
| 1867 | ¾d. | 1882 | ⅜d. | 1897 | ⅜d. |
| 1868 | 5/16d. | 1883 | ½d. | 1898 | ⅜d. |
| 1869 | ½d. | 1884 | ⅜d. | 1899 | 7/16d. |
| 1870 | ⅝d. | 1885 | ⅜d. | 1900 | ½d. |
| 1871 | ⅝d. | 1886 | ⅜d. | | |

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The following table gives particulars of freights on some of the chief articles of export for a period of thirteen years. For the last two years a considerable increase is shown, due in great measure to the advance in price of coal, coupled with a rise in wages and value of materials :—

| Year. | Vessel. | Per lb. | Per ton weight. | | | Per ton measurement (40 cubic feet). | |
|---|---|---|---|---|---|---|---|
| | | Wool (Greasy). | Tallow. | Leather. | Hides. | Preserved Meats. | Measurement Goods. |
| 1888 | Sailing | $\frac{5}{16}$d. to $\frac{7}{16}$d. | 25/- to 45/- | 30/- to 45/- | 20/- | 25/- to 30/- | 25/- to 30/- |
| | Steam | $\frac{1}{2}$d. to $\frac{9}{16}$d. | 30/- to 52/6 | 35/- to 50/- | ..... | 30/- | 60/- |
| 1889 | Sailing | $\frac{5}{16}$d. to $\frac{7}{16}$d. | 25/- to 45/- | 27/6 to 45/- | 15/- to 20/- | 22/6 | 20/- to 25/- |
| | Steam | $\frac{1}{2}$d. to $\frac{3}{4}$d. | 25/- to 50/- | 40/- to 60/- | ..... | ..... | ..... |
| 1890 | Sailing | $\frac{3}{8}$d. to $\frac{1}{2}$d. | 32/6 to 47/6 | 35/- to 45/- | 15/- to 25/- | 25/- to 30/- | 25/- to 35/- |
| | Steam | $\frac{1}{2}$d. to $\frac{3}{4}$d. | 35/- to 50/- | 45/- to 60/- | ..... | 30/- | 60/- |
| 1891 | Sailing | $\frac{1}{2}$d. to $\frac{7}{16}$d. | 26/- to 45/- | 27/6 to 40/- | 20/- to 30/- | 17/6 to 25/- | 22/6 to 45/- |
| | Steam | $\frac{5}{16}$d. to $\frac{3}{4}$d. | 32/6 to 45/- | 32/6 to 50/- | 30/- to 35/- | ..... | 32/6 to 60/- |
| 1892 | Sailing | $\frac{3}{8}$d. to $\frac{5}{16}$d. | 27/6 to 37/6 | 27/6 to 40/- | 15/- to 22/6 | 20/- to 27/6 | 27/6 to 40/- |
| | Steam | $\frac{3}{8}$d. to $\frac{3}{4}$d. | 45/- to 50/- | 40/- to 60/- | 35/- | 32/6 to 40/- | 40/- to 60/- |
| 1893 | Sailing | $\frac{5}{16}$d. to $\frac{1}{2}$d. | 25/- to 40/- | 25/- to 40/- | 15/- to 22/6 | 15/- to 17/6 | 25/- to 40/- |
| | Steam | $\frac{3}{8}$d. to $\frac{9}{16}$d. | 35/- to 50/- | 35/- to 60/- | 30/- to 40/- | 30/- | 40/- to 60/- |
| 1894 | Sailing | $\frac{3}{8}$d. to $\frac{7}{16}$d. | 32/6 to 37/6 | 32/6 to 40/- | 17/6 to 20/- | 17/6 | 25/- to 30/- |
| | Steam | $\frac{3}{8}$d. to $\frac{1}{2}$d. | 40/- to 50/- | 35/- to 50/- | 30/- | 25/- to 30/- | 35/- to 50/- |
| 1895 | Sailing | $\frac{5}{16}$d. to $\frac{3}{8}$d. | 17/6 to 35/- | 30/- to 40/- | 15/- to 22/6 | 15/- to 17/6 | 20/- to 35/- |
| | Steam | $\frac{5}{16}$d. to $\frac{1}{2}$d. | 22/6 to 40/- | 35/- to 65/- | 25/- to 40/- | 20/- to 30/- | 30/- to 45/- |
| 1896 | Sailing | $\frac{1}{2}$d. to $\frac{5}{16}$d. | 12/6 to 25/- | 25/- to 30/- | 15/- to 17/6 | 12/6 to 15/- | 17/6 to 30/- |
| | Steam | $\frac{1}{2}$d. to $\frac{1}{2}$d. | 12/6 to 35/- | 27/6 to 45/- | 25/- to 40/- | 20/- to 30/- | 20/- to 40/- |
| 1897 | Sailing | $\frac{5}{16}$d. to $\frac{3}{8}$d. | 15/- to 30/- | 32/6 | 15/- | 12/6 to 15/- | 20/- |
| | Steam | $\frac{7}{16}$d. to $\frac{1}{2}$d. | 30/- | 45/- to 50/- | 30/- | 25/- to 27/6 | 27/- to 32/6 |
| 1898 | Sailing | $\frac{3}{8}$d. | 30/- to 32/6 | 37/6 | 20/- | 15/- | 27/- to 30/- |
| | Steam | $\frac{3}{8}$d. to $\frac{9}{16}$d. | 25/- to 30/- | 45/- to 50/- | 30/- | 25/- | 35/- to 45/- |
| 1899 | Sailing | $\frac{1}{2}$d. to $\frac{7}{16}$d. | 35/- to 42/6 | 40/- | 22/6 | 17/6 | 20/- |
| | Steam | $\frac{3}{8}$d. to $\frac{3}{4}$d. | 35/- to 42/6 | 40/- to 50/- | 30/- to 40/- | 25/- to 30/- | 40/- to 45/- |
| 1900 | Sailing | $\frac{7}{16}$d. to $\frac{1}{2}$d. | 37/6 to 45/- | 40/- to 50/- | 30/- | 25/- | 30/- to 40/- |
| | Steam | $\frac{3}{8}$d. to $\frac{1}{2}$d. | 40/- to 45/- | 40/- to 55/- | 35/- | 25/- to 37/6 | 30/- to 50/- |

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# COMMERCE

THE Collector of Customs administers affairs relating to Customs and Excise, and receives all revenue derived from the charges on shipping, with the exception of the fees of the Navigation Department, and the moneys received by the Harbour Trust. With the inauguration of the Commonwealth on the 1st January, 1901, the Customs Departments of the various states passed over to the Federal authority.

The coasting trade of the state may be conducted under one of two systems—either the captain of a vessel may obtain a document, called a "Transire," permitting his ship to engage in the local carrying trade for a period of three months, or he may enter the particulars of his cargo in a book kept for that purpose, and have the entries initialled at the Custom House every voyage. It is not necessary to pass entries for goods shipped from one part of the state to another, although, of course, excisable articles are carried under a bond certificate. With regard to merchandise destined for or received from abroad, a different course of procedure is adopted. A declaration must be made to the Customs of the quantities and values of all imports, except such goods as have been brought into port for transhipment, of which only a description of the packages is entered, there being no law in existence requiring merchants to supply the quantities and values of such goods. Of articles which are subject to specific duties, the values declared by the importers are understood to be the values at the port of shipment, with packing, freight, insurance, and all other charges added. The declared values of the goods are checked, and, if found to be wrongly stated, amended by the Customs officials. Dutiable articles may be reintroduced to the state under reintroduction certificates, which are issued by the Customs Department for the port or border station at which it is desired to reintroduce the goods. All goods seized by the Customs are submitted to auction sale, and if they do not realise the amount of duty leviable on them they are withdrawn and destroyed.

The entries for imports passed at the Customs do not in every case show the countries from which the goods have actually come, but usually the places at which they were shipped. This is an imperfection, incidental to all Customs statistics, which in the present method of conducting trade cannot be avoided. The desirability of recording the actual place of origin is admitted, and the Customs officers go so far as to alter the entries when the nature of the goods clearly shows that they have arrived from a country other than the one stated. In like manner the exports of the state are in many cases cleared for other

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countries than those for which they are ultimately destined, and it is estimated that some £3,300,000 of goods in transit to Europe are credited in the Customs to Victoria and South Australia.

Although goods transhipped at Sydney and other ports are not included in the trade returns of the state, in some of the provinces to which they are forwarded they are treated as imports from New South Wales, and there is in consequence a discrepancy between the interchange figures published in this state and those of the other provinces where the practice mentioned prevails. Dutiable articles carried by vessels for use or consumption on board are, however, classed as exports here when the vessels clear, but no account is taken of goods on the free list. The quantities and values of exports are not, as in the case of the imports, obtained under declaration, but the Collector of Customs has power to adopt this form of procedure should he think it advisable to do so. The values given in the returns represent the values of the goods at the place of shipment in the state, and are checked by the Customs officers with the prices ruling from day to day in the local markets.

## Increase of Trade.

The value of goods imported into and exported from New South Wales has increased, during the seventy-four years over which the records extend, from £400,000 in 1825 to £55,725,587 in 1900. The yearly values have been somewhat uncertain in their increase, the imports from 1840 to 1852 being especially erratic; but of late years the progress of the state, as evidenced by its trade, has been remarkably steady, the largest falling off in any year being that experienced in 1892. The gross value of the exports from year to year, for the reasons hereafter pointed out, forms the surest index of the progress of a country circumstanced like New South Wales, and the result of a rise or fall in the value of the staple commodities, or of a depression in production, may be readily traced in the corresponding rise or fall in the export values. The amount of the trade of the state, for the several periods shown, was :—

| Year. | Imports. | Exports. | Total Trade. | Year. | Imports. | Exports. | Total Trade. |
|---|---|---|---|---|---|---|---|
| | £ | £ | £ | | £ | £ | £ |
| 1825 | 300,000 | 100,000 | 400,000 | 1892 | 20,776,526 | 21,972,247 | 42,748,773 |
| 1830 | 420,480 | 141,461 | 561,941 | 1893 | 18,107,035 | 22,921,223 | 41,028,258 |
| 1840 | 3,014,189 | 1,399,692 | 4,413,881 | 1894 | 15,801,941 | 20,577,673 | 36,379,614 |
| 1850 | 2,078,338 | 2,399,580 | 4,477,918 | 1895 | 15,992,415 | 21,934,785 | 37,927,200 |
| 1860 | 7,755,859 | 6,311,351 | 14,067,210 | 1896 | 20,561,510 | 23,010,349 | 43,571,859 |
| 1870 | 8,284,378 | 8,030,578 | 16,314,956 | 1897 | 21,744,350 | 23,751,072 | 45,495,422 |
| 1880 | 14,176,063 | 15,682,802 | 29,858,865 | 1898 | 24,453,560 | 27,648,117 | 52,101,677 |
| 1890 | 22,615,004 | 22,045,937 | 44,660,941 | 1899 | 25,594,315 | 28,445,466 | 54,039,781 |
| 1891 | 25,383,397 | 25,944,020 | 51,327,417 | 1900 | 27,561,071 | 28,164,516 | 55,725,587 |

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The following table shows the value of the trade of New South Wales with each of the principal countries during the year 1900 :—

| Countries. | Total Imports therefrom. | Exports thereto. | | | Total Trade. |
|---|---|---|---|---|---|
| | | Domestic Produce or Manufacture. | Other Produce or Manufacture. | Total. | |
| **Commonwealth of Australia :—** | £ | £ | £ | £ | £ |
| Victoria | 3,396,782 | 2,991,055 | 986,773 | 3,977,828 | 7,374,610 |
| Queensland | 4,631,384 | 753,965 | 1,164,938 | 1,918,903 | 6,550,287 |
| South Australia | 1,439,528 | 3,031,290 | 228,240 | 3,259,530 | 4,699,058 |
| Western Australia | 147,908 | 263,085 | 182,889 | 445,974 | 593,882 |
| Tasmania | 548,478 | 123,333 | 253,641 | 376,979 | 925,457 |
| Total | 10,164,080 | 7,162,733 | 2,816,481 | 9,979,214 | 20,143,294 |
| New Zealand | 1,348,605 | 248,763 | 577,899 | 826,662 | 2,175,267 |
| United Kingdom | 9,923,117 | 6,916,935 | 1,356,337 | 8,273,272 | 18,196,389 |
| **Other British Possessions :—** | | | | | |
| Canadian Dominion | 114,321 | 43,331 | 23,072 | 66,403 | 180,724 |
| Ceylon | 213,195 | 7,907 | 50,495 | 58,402 | 271,597 |
| Fiji | 60,831 | 40,507 | 143,072 | 183,579 | 244,410 |
| Hong Kong | 67,928 | 38,266 | 180,720 | 218,986 | 286,914 |
| India | 388,546 | 94,970 | 20,924 | 115,894 | 504,440 |
| Straits Settlements | 40,391 | 39,699 | 199 | 39,898 | 80,289 |
| Mauritius | 76,779 | 7,242 | 1,371 | 8,613 | 85,392 |
| Other British Possessions | 43,163 | 537,962 | 258,498 | 796,460 | 839,623 |
| Total, Other British Possessions | 1,005,154 | 809,884 | 678,351 | 1,488,235 | 2,493,389 |
| **Foreign Countries :—** | | | | | |
| Belgium | 147,661 | 498,026 | 122,323 | 620,349 | 768,010 |
| China | 190,456 | 65,762 | 2,242 | 68,004 | 258,460 |
| France | 270,084 | 886,115 | 138,185 | 1,024,300 | 1,294,384 |
| Germany | 1,105,664 | 755,275 | 89,220 | 844,495 | 1,950,159 |
| Italy | 92,732 | 41,910 | 19,222 | 61,132 | 153,864 |
| Japan | 122,041 | 119,882 | 14,107 | 133,989 | 256,030 |
| New Caledonia | 28,509 | 88,585 | 91,224 | 179,759 | 208,268 |
| South Sea Islands and New Hebrides | 107,488 | 25,931 | 100,920 | 126,851 | 234,339 |
| United States | 2,557,961 | 759,267 | 3,221,975 | 3,981,242 | 6,539,203 |
| Other Foreign Countries | 497,519 | 494,470 | 62,542 | 557,012 | 1,054,531 |
| Total, Foreign Countries | 5,120,115 | 3,735,173 | 3,861,960 | 7,597,133 | 12,717,248 |
| General Total | 27,561,071 | 18,873,488 | 9,291,628 | 28,164,516 | 55,725,587 |

Of the total trade shown above, 81·8 per cent. is sea-borne, the remaining 18·2 per cent. comprising the overland trade with the three bordering states of Queensland, South Australia, and Victoria. Nearly the whole of the seaward trade is monopolised by the ports of Sydney and Newcastle, the trade of the other ports amounting to less than £124,000, and of this amount more than four-fifths belong to Wollongong. The distribution of the overland trade is much more equal. The value of the overland trade with Victoria during 1900 was £5,022,660; that with South Australia came to £3,918,692; and the Queensland overland trade was worth £1,211,951. Wool and live stock form the bulk of the traffic with Victoria and Queensland, and this was also the case with South Australia until the development in 1886 of the mines in the Barrier district, when the chief elements of export became silver

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bullion, lead, and ore, and the imports, general merchandise for Broken Hill. The appended table shows the trade of each of the ports and border stations of the state during 1900. Some of the latter—Wilcannia and Bourke, for instance—are situated at a considerable distance from the actual border :—

| Port or Station. | Imports. | Exports. | | | Total Trade. |
|---|---|---|---|---|---|
| | | Domestic Produce or Manufacture. | Other Produce or Manufacture. | Total. | |
| | £ | £ | £ | £ | £ |
| **SEAWARD.** | | | | | |
| Sydney | 22,573,763 | 11,217,470 | 8,904,538 | 20,122,008 | 42,695,771 |
| Clarence River (Yamba). | ..... | 760 | ..... | 760 | 760 |
| Eden | 2,894 | 3,351 | 135 | 3,486 | 6,380 |
| Newcastle | 680,250 | 2,053,131 | 19,261 | 2,072,392 | 2,752,642 |
| Port Stephens | ..... | 4,786 | ..... | 4,786 | 4,786 |
| Wollongong | ..... | 111,945 | ..... | 111,945 | 111,945 |
| Total £ | 23,256,907 | 13,391,443 | 8,923,934 | 22,315,377 | 45,572,284 |
| **OVERLAND.** | | | | | |
| Albury | 1,765,457 | 766,990 | 288,350 | 1,055,340 | 2,820,797 |
| Barringun | ..... | 161 | 309 | 470 | 470 |
| Boggabilla | 175,366 | 35,779 | 93 | 35,872 | 211,238 |
| Bourke (Inland) | 23,048 | 130 | 1,490 | 1,620 | 24,668 |
| Cobram | 29,610 | 25,676 | 30 | 25,706 | 55,316 |
| Corowa | 64,139 | 245,103 | 2,640 | 247,743 | 311,882 |
| Delegate | 3,855 | ..... | ..... | ..... | 3,855 |
| Euston | 8,418 | 41,419 | 411 | 41,830 | 50,248 |
| Hebel | 17,490 | ..... | ..... | ..... | 17,490 |
| Howlong | 7,381 | 27,358 | 229 | 27,587 | 34,968 |
| Moama | 289,299 | 473,884 | 16,644 | 490,528 | 779,827 |
| Mulwala | 40,045 | 128,814 | 728 | 129,542 | 169,587 |
| Mungindi | 36,334 | ..... | ..... | ..... | 36,334 |
| Swan Hill | 37,275 | 435,530 | 196 | 435,726 | 473,001 |
| Tocumwal | 55,839 | 123,563 | 14,318 | 137,881 | 193,720 |
| Tweed Heads | 309 | 2,337 | 42 | 2,379 | 2,688 |
| Wallangarra | 275,240 | 365,121 | 10,807 | 375,928 | 651,168 |
| Wentworth | 63,352 | 292,772 | 2,643 | 295,415 | 358,767 |
| Wilcannia (Inland) | 29,876 | ..... | 35 | 35 | 29,911 |
| Willyama (Broken Hill) | 1,162,885 | 2,516,052 | 28,129 | 2,544,181 | 3,707,066 |
| Other Crossing-places (Live Stock) | 218,946 | 1,356 | ..... | 1,356 | 220,302 |
| Total £ | 4,304,164 | 5,482,045 | 367,094 | 5,849,139 | 10,153,303 |
| Grand Total £ | 27,561,071 | 18,873,488 | 9,291,028 | 28,164,516 | 55,725,587 |

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### Trade of the Commonwealth and New Zealand.

The trade of New South Wales is larger than that of any of the other provinces of Australasia, but it is exceeded by the commerce of Western Australia in value per head of population. The total trade of each state and of New Zealand for 1880, 1890, and 1900 is shown in the following table, and the magnitude of the business transacted, not only by this state but by the rest of the group, is very suggestive. It will be seen that the trade of Victoria ranks second in value, and that of the other divisions in the following order :—New Zealand, Queensland, South Australia, Western Australia, and Tasmania.

| State. | 1880. | 1890. | 1900. |
|---|---|---|---|
| | £ | £ | £ |
| New South Wales ..... | 29,858,865 | 44,660,941 | 55,725,587 |
| Victoria ..... | 30,511,453 | 36,220,237 | 35,724,363 |
| Queensland ..... | 6,535,456 | 13,621,212 | 16,765,674 |
| *South Australia ..... | 11,156,003 | 17,328,301 | 16,253,881 |
| Western Australia ..... | 852,852 | 1,546,260 | 12,814,232 |
| Tasmania ..... | 2,881,154 | 3,384,504 | 4,684,274 |
| Commonwealth ..... | 81,795,783 | 116,761,455 | 141,968,011 |
| New Zealand ..... | 12,514,703 | 16,072,245 | 23,892,257 |
| Australasia ..... | 94,310,486 | 132,833,700 | 165,860,268 |

* Including Northern Territory.

### Imports.

In 1900 the gross value of goods imported into the state amounted to £27,561,071, or at the rate of £20 7s. 0d. per head, while the imports for home consumption were valued at £18,270,043, or £13 9s. 10d. per head of population—showing an increase on the previous year of £1 3s. 2d. per head in the gross imports, and of £1 4s. 4d. per head in the net imports. In 1891 the gross imports averaged £22 4s. 6d. and the imports for home consumption, £17 19s. 5d.; but from that year the values per head of population steadily declined until 1895, when they touched the lowest point on record since the state was restricted to its present boundaries thirty-six years before. The falling off was due to two chief causes—first, to the large diminution in public and private borrowings; and, second, to the fall in prices, which has extended to nearly all the commodities that the state imports. In 1896, however, the average value of imports for home consumption per head of

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population rose to £11 5s. 0d., and the improvement continued in 1897, although in 1898 there was again a slight decline, the value for that year being £11 1s. 5d. In 1899, however, the value per head rose to £12 5s. 6d., and in 1900 to £13 9s. 10d. The course of the import trade since 1870 may be traced in the following table:—

| Year. | Imports for home consumption per head. | Total Imports per head. | Year. | Imports for home consumption per head. | Total Imports per head. |
|---|---|---|---|---|---|
| | £ s. d. | £ s. d. | | £ s. d. | £ s. d. |
| 1870 | 12 7 8 | 15 16 6 | 1892 | 14 0 7 | 17 13 1 |
| 1875 | 19 14 10 | 23 9 11 | 1893 | 10 4 2 | 15 1 0 |
| 1880 | 15 4 9 | 19 9 0 | 1894 | 9 1 5 | 12 17 7 |
| 1885 | 18 19 8 | 25 12 0 | 1895 | 8 6 10 | 12 15 9 |
| 1886 | 16 2 3 | 21 19 8 | 1896 | 11 5 0 | 16 3 7 |
| 1887 | 13 10 8 | 19 1 7 | 1897 | 11 13 3 | 16 17 0 |
| 1888 | 13 16 2 | 20 9 11 | 1898 | 11 1 5 | 18 12 8 |
| 1889 | 16 3 10 | 21 8 9 | 1899 | 12 5 6 | 19 3 10 |
| 1890 | 16 0 8 | 20 0 6 | 1900 | 13 10 3 | 20 7 0 |
| 1891 | 17 19 5 | 22 4 6 | | | |

In order to show clearly the nature of the goods imported into the state, the imports in 1900 have been classified under certain leading heads, as appended. It should be explained that the import of coal, coke, &c., amounting to £11,690, consisted almost entirely of coke required for smelting purposes at Broken Hill:—

| Classification. | Total Imports. | Imports for home consumption. |
|---|---|---|
| | £ | £ |
| Food and beverages, including breadstuffs ..... | 3,275,652 | 2,692,538 |
| Wines, fermented and spirituous liquors ..... | 789,815 | 697,958 |
| Live stock ..... | 859,539 | 765,788 |
| Animal and vegetable products, including wool ... | 3,744,168 | 2,161,759 |
| Clothing and textile fabrics ..... | 5,827,364 | 5,219,828 |
| Minerals and metals, raw or partly worked up, including silver bullion, lead, and ore ..... | 2,026,770 | 1,723,410 |
| Coal, coke, &c..... | 11,690 | 11,690 |
| Specie and gold bullion ..... | 4,679,103 | ..... |
| Articles of education, art, amusement ..... | 1,290,817 | 1,035,526 |
| Manufactured articles not elsewhere included ..... | 4,299,166 | 3,438,864 |
| Unclassified articles ..... | 756,987 | 551,651 |
| Total value ..... .....£ | 27,561,071 | 18,299,012 |

It will be seen that the state imported food and drink for its own consumption to the value of £3,390,496, or at the rate of £2 10s. 1d. for each inhabitant, and manufactured goods to the amount of £9,694,218, or at the rate of £7 3s. 2d. per head of population, together representing

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£9 13s. 3d., out of a total of £13 9s. 10d. The principal items of the balance are live stock, animal and vegetable products, and minerals and metals raw or partly worked up. Of the animal and vegetable products, and the minerals and metals, some portion is worked up in the state for local requirements; but the greater portion of the gold imported is treated at the Mint, and re-exported in the shape of coin. The value per head of some of the principal articles imported for home consumption during the last five years is given below:—

| Articles. | 1896. | 1897. | 1898. | 1899. | 1900. |
|---|---|---|---|---|---|
| | s. d. | s. d. | s. d. | s. d. | s. d. |
| Apparel—Wearing, and gloves | 15 3 | 15 8 | 14 7 | 15 9 | 19 5 |
| Beer and ale | 3 9 | 4 2 | 3 7 | 3 10 | 3 7 |
| Boots and shoes | 5 5 | 4 3 | 4 6 | 4 9 | 6 4 |
| Drapery | 28 5 | 23 2 | 24 4 | 24 1 | 27 1 |
| Grain, pulse, etc.— | | | | | |
| Flour | 7 8 | 8 6 | 1 10 | 4 0 | 0 10 |
| Wheat | 8 0 | 2 7 | 1 1 | 2 1 | 0 3 |
| Oats | 1 6 | 1 3 | 1 6 | 2 4 | 1 10 |
| Hardware | 3 4 | 3 11 | 2 5 | 3 0 | 3 4 |
| Iron and steel— | | | | | |
| Pipes | 1 0 | 0 8 | 0 11 | 1 4 | 1 9 |
| Wire (black and galvanized) | 1 11 | 2 6 | 1 9 | 2 7 | 2 4 |
| Galvanized sheets and bars | 2 6 | 2 10 | 2 5 | 4 7 | 3 9 |
| Live stock— | | | | | |
| Horned cattle | 7 9 | 5 11 | 9 2 | 8 4 | 4 1 |
| Horses | 1 3 | 1 8 | 1 6 | 1 3 | 1 7 |
| Sheep | 4 9 | 4 7 | 3 0 | 3 2 | 5 4 |
| Machinery | 6 2 | 6 4 | 6 9 | 7 1 | 9 11 |
| Paper, books, etc. | 4 10 | 5 8 | 4 11 | 5 0 | 6 9 |
| Spirits | 5 4 | 5 7 | 6 2 | 6 6 | 6 8 |
| Sugar | 7 3 | 7 3 | 8 5 | 7 7 | 8 7 |
| Tea | 3 4 | 4 1 | 3 11 | 5 0 | 5 7 |
| Timber (dressed and rough) | 4 9 | 5 10 | 5 4 | 6 0 | 7 1 |
| Tobacco, cigars, and cigarettes | 2 6 | 3 0 | 2 10 | 2 10 | 3 5 |
| Woollen Manufactures | 1 7 | 7 6 | 6 11 | 7 4 | 9 10 |

The import of drapery stands first in the list of values, and if wearing apparel be added the value of these goods represented a sum of

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£2 6s. 6d. per head of population in 1900. The highest values attained by drapery and wearing apparel were in 1882, when they averaged almost £5 for every inhabitant. In 1900 iron and steel, machinery, and hardware combined represented £1 1s. 1d. per head of population; wheat and flour, 1s. 1d.; intoxicants, 11s. 3d., of which the value of spirits was 6s. 8d., of beer 3s. 7d., and of wine, 1s.; sugar, 8s. 7d.; tea, 5s. 7d.; paper, books, etc., 6s. 9d.; and boots and shoes, 6s. 4d. None of the other values reach such large figures except those for live stock and timber, though many other articles form individually very important items. Two things are plain from a consideration of this table—the great purchasing power of the people, though now greatly reduced compared with what it was ten years ago, and the great scope existing for the production of goods which are now imported, and for the extension of manufactures within the state. This will, perhaps, be seen more clearly from the gross values of some of the principal articles imported during the year 1900, which are given in the following table:—

| | | | |
|---|---|---|---|
| Apparel, Wearing | £1,571,333 | Leather | £136,088 |
| Arms and ammunition | 215,410 | Animals, live | 859,539 |
| Beer | 255,932 | Malt and hops | 146,886 |
| Bicycles, etc. | 101,403 | Matches | 80,656 |
| Boots and shoes | 464,691 | Milk, Condensed | 88,122 |
| Butter | 92,150 | Musical instruments | 141,289 |
| Candles | 88,379 | Oils—mineral and vegetable | 378,291 |
| Cement | 89,091 | Paints, paperhangings, lampware | 186,117 |
| Chaff and hay | 117,924 | Paper, books, stationery, etc. | 570,586 |
| Cheese | 46,094 | Pickles, sauces, and oilmen's stores | 93,310 |
| Chinaware and earthenware | 118,395 | Potatoes and other vegetables | 259,565 |
| Copra | 122,500 | Saddlery and harness and saddler's ware | 66,085 |
| Cutlery | 62,224 | Silver plate and ware | 134,030 |
| Drapery | 3,101,636 | Skins and hides | 465,747 |
| Drugs and apothecaries' ware | 205,803 | Spirits | 430,835 |
| Fancy goods and toys | 199,709 | Stationery (sundries) | 158,811 |
| Fish, Preserved | 159,221 | Sugar | 738,548 |
| Flour | 82,729 | Tea | 459,176 |
| Fruit, Bottled, dried, and green | 478,955 | Timber | 547,520 |
| Furniture and upholstery | 163,101 | Tinplates | 123,788 |
| Glass and glassware | 135,017 | Tobacco, cigars, and cigarettes | 317,860 |
| Grain and pulse | 396,014 | Tools of trade | 138,109 |
| Hardware | 350,637 | Watches and clocks | 62,090 |
| Iron and iron manufactures and machinery | 1,606,902 | Wine | 70,049 |
| Jewellery and precious stones | 195,780 | | |

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The values of the imports into New South Wales, classed under the main countries of origin, for 1870 and subsequent periods ending with 1900, were as undernoted :—

| Year. | United Kingdom. | Commonwealth States and New Zealand. | Other British Possessions. | Foreign States. | Total. |
|---|---|---|---|---|---|
| | £ | £ | £ | £ | £ |
| 1870 | 3,200,706 | 3,677,927 | 573,462 | 832,283 | 8,284,378 |
| 1875 | 6,062,226 | 5,878,751 | 867,252 | 926,904 | 13,735,133 |
| 1880 | 6,536,661 | 5,945,788 | 539,334 | 1,154,280 | 14,176,063 |
| 1885 | 11,885,597 | 8,595,429 | 818,689 | 2,437,746 | 23,737,461 |
| 1886 | 10,445,980 | 8,085,584 | 621,507 | 2,160,056 | 21,313,127 |
| 1887 | 7,998,568 | 9,017,035 | 549,345 | 1,606,369 | 19,171,317 |
| 1888 | 9,212,981 | 9,085,567 | 736,224 | 2,194,505 | 21,229,277 |
| 1889 | 8,736,478 | 10,647,312 | 814,718 | 2,664,549 | 22,863,057 |
| 1890 | 8,628,007 | 10,981,721 | 663,325 | 2,341,951 | 22,615,004 |
| 1891 | 10,580,230 | 11,127,178 | 766,947 | 2,909,042 | 25,383,397 |
| 1892 | 8,883,983 | 9,201,193 | 577,707 | 2,113,643 | 20,776,526 |
| 1893 | 7,218,124 | 8,895,787 | 565,491 | 1,427,633 | 18,107,035 |
| 1894 | 5,963,489 | 7,794,168 | 608,356 | 1,415,928 | 15,801,941 |
| 1895 | 6,420,107 | 7,321,668 | 611,021 | 1,639,619 | 15,992,415 |
| 1896 | 7,190,115 | 9,559,860 | 625,164 | 3,186,371 | 20,561,510 |
| 1897 | 7,557,069 | 9,602,277 | 856,576 | 3,728,428 | 21,744,350 |
| 1898 | 7,744,418 | 12,467,059 | 864,420 | 3,377,663 | 24,453,560 |
| 1899 | 8,211,351 | 12,113,402 | 929,780 | 4,339,782 | 25,594,315 |
| 1900 | 9,923,117 | 11,512,685 | 1,005,154 | 5,120,115 | 27,561,071 |

The question of the trade with different countries will be returned to later on in this chapter. It may be pointed out that the above figures are not absolutely correct, as the Customs returns do not always enable goods to be traced to their actual place of origin, in some cases merely showing the place at which they were shipped. A greater trade is therefore maintained by New South Wales with foreign states than would appear from the foregoing table, as a large proportion of the products of some European countries is sent to Australia by way of Great Britain. The imports set down as coming from the other Commonwealth states and New Zealand also include the British and foreign goods introduced into New South Wales overland by way of Victoria and South Australia.

## Exports.

The export trade of New South Wales, like the import, is greater than that of any other Australasian state. In consequence of the large influx of capital, representing not only the borrowings of the state, but the money received for private investment, the imports formerly exceeded the exports in value; but since 1890, with diminished borrowings, this condition of things has been reversed, and there is now a large excess of exports, which it is necessary to send away in order to meet the annual interest-charge upon the state, and the return from investments. The excess of exports was sufficiently large to meet this burden in the three years 1893–95, but from 1896 to 1898 a further influx of capital in excess of withdrawals reduced the difference between the export and import values. This interesting question is discussed

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farther on, in connection with the increase in production; but it may here be added that during the last ten years the excess of exports over imports ranged from £560,623 in 1891 to £5,942,370 in 1895, the amount in 1900 being £603,445. Compared with those of other states, the extent of the New South Wales exports of home produce is satisfactory, as will be evident from the subsequent table, which shows the total export trade in domestic produce, and the amount per head of the population, for each of the Commonwealth states and for New Zealand in the year 1900. In point of value per head of population, New South Wales is, of course, surpassed by Western Australia and Queensland, where the proportion of adult males is very much higher; and it will be seen that during the year 1900 the state was also exceeded by New Zealand and Tasmania:—

| State. | Total Exports of Domestic Produce. | Per head of Population. |
|---|---|---|
| | £ | £ s. d. |
| New South Wales | 18,873,488 | 13 18 9 |
| Victoria | 13,918,556 | 11 13 3 |
| Queensland | 9,354,689 | 19 1 7 |
| South Australia | 3,707,128 | 10 5 9 |
| Western Australia | 6,639,827 | 37 16 3 |
| Tasmania | 2,595,309 | 15 0 9 |
| Commonwealth | 55,088,997 | 14 14 1 |
| New Zealand | 13,055,249 | 17 1 11 |
| Australasia £ | 68,144,246 | 15 2 2 |

There is a defect in these figures, so far, at least, as two of the states are concerned. Victoria and South Australia have each a large re-export trade, especially in raw produce, and it frequently happens that credit is taken for the produce of other states in the returns showing their export of home produce. New South Wales was formerly over-credited with gold received from Queensland for coinage, and is still, to some extent, with tin and copper imported from Queensland, South Australia, and Tasmania, and with cattle from the northern state. To what extent the Customs value of home produce is overstated in Victoria and South Australia is unknown, but much of the New South Wales produce passing through Victoria for shipment to England is exported as Victorian produce. This was especially noticeable as regards wool, large quantities of which were shipped as Victorian produce although really the production of the other states—principally New South Wales—the quantity over-credited in this manner during 1897 being 17,000,000 lb. During 1898, however, the figures relating to the exports of wool by Victoria were carefully adjusted, and consequently there is now no over-statement. How far the system obtains in other directions it is impossible to say.

Dividing the exports of New South Wales into two classes—those which are the produce and manufacture of the state, and those imported from other countries—the preponderance of home produce exported is

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very marked. The value of the domestic exports in 1900 was nearly twice as great as in 1874; and, speaking generally, the expansion during the intervening period of twenty-six years has been of a steady character. Wool constitutes the largest item of domestic export, and any fluctuation in the production or market value of the staple is plainly marked in the whole trade. The decline in the value of domestic exports between 1880 and 1886, which the following table shows, was to a great extent due to the fall in the price of wool, and to the losses brought about by a succession of dry seasons. The exports of produce other than that of the state also show a decline about this period, ascribable in part to the causes which affected the general exports, and to the establishment of direct communication between Great Britain and Queensland and Tasmania; but the lost ground has been more than recovered. It may be well to explain that the apparently abnormal increase in the value of produce, other than domestic, exported during 1898 was entirely due to the large export of gold coin during that year:—

| Year. | Domestic produce exported. | | Other produce exported, including gold. | Total Exports. |
|---|---|---|---|---|
| | Gold. | Commodities. | | |
| | £ | £ | £ | £ |
| 1876 | 368,464 | 9,102,099 | 3,590,849 | 13,061,412 |
| 1877 | 663,552 | 8,880,570 | 3,913,778 | 13,457,900 |
| 1878 | 609,121 | 9,016,558 | 3,508,726 | 13,134,405 |
| 1879 | ..... | 10,079,317 | 3,052,614 | 13,131,931 |
| 1880 | ..... | 12,007,931 | 3,674,871 | 15,682,802 |
| 1881 | 710,412 | 11,244,865 | 4,352,528 | 16,307,805 |
| 1882 | 566,516 | 12,623,435 | 4,487,404 | 17,677,355 |
| 1883 | 502,517 | 15,625,835 | 4,133,921 | 20,262,273 |
| 1884 | 73,593 | 13,989,634 | 4,514,063 | 18,577,290 |
| 1885 | 71,539 | 11,987,741 | 4,690,827 | 16,750,107 |
| 1886 | 24,918 | 11,558,311 | 4,134,708 | 15,717,937 |
| 1887 | 34,184 | 14,206,128 | 4,281,438 | 18,521,750 |
| 1888 | 165,540 | 15,516,852 | 5,237,738 | 20,920,130 |
| 1889 | 321,731 | 17,378,662 | 5,594,541 | 23,294,934 |
| 1890 | 137,169 | 17,095,556 | 4,813,212 | 22,045,937 |
| 1891 | 1,296,093 | 19,789,619 | 4,858,308 | 25,944,020 |
| 1892 | 11,486 | 17,695,616 | 4,265,145 | 21,972,247 |
| 1893 | 25,885 | 17,068,328 | 5,827,010 | 22,921,223 |
| 1894 | 325,302 | 15,579,659 | 4,672,712 | 20,577,673 |
| 1895 | 1,063,558 | 15,372,652 | 5,498,575 | 21,934,785 |
| 1896 | 1,699,549 | 15,043,142 | 6,267,658 | 23,010,349 |
| 1897 | 1,725,940 | 15,331,603 | 6,693,529 | 23,751,072 |
| 1898 | 1,750,747 | 15,976,320 | 9,921,050 | 27,648,117 |
| 1899 | 1,301,665 | 17,920,189 | 9,223,612 | 28,445,466 |
| 1900 | 1,330,249 | 17,543,239 | 9,291,028 | 28,164,516 |

The value of New South Wales produce exported during 1891 largely exceeded that of any other year. A portion of the trade would have been transacted in 1890 if the maritime strike had not occurred; but, after allowing freely for the increase due to this circumstance, the value is still the largest in the history of the state. The table just given

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shows a notable rise in the value of domestic produce exported during 1889, which was well sustained until 1893. This may be attributed in the first place to a fortunate succession of good seasons, and in the second to the production of silver, which became an important article of export in the year named. The large decrease in 1894 is fully accounted for by the fall in prices, the depression preventing such increased production as would have had the effect of sustaining the total export value. In 1895 and 1896 there was a further slight fall, although the average price of the commodities produced in the state was higher than in 1894; but although prices in 1897 were not so good as in 1896, the value of the domestic exports was greater, not only in the total amount, but in the average per head of population. The recovery in prices from 1898 onwards enabled the exports of domestic produce to show a decided increase on the values of the previous years.

In the presentation of the figures relating to the export trade, it will be seen that the value of commodities has been separated from that of gold, the export of gold the produce of the state being taken to be the excess of the total export of coin over the total import of coin and bullion. Where there was no such excess the whole of the gold exported has been classed as other than domestic produce. Below will be found the value of the trade per inhabitant, the subdivision being the same as that adopted in previous table :—

| Year. | Domestic produce exported. | | Other produce exported, including gold. | Total Exports. |
|---|---|---|---|---|
| | Gold. | Commodities. | | |
| | £ s. d. | £ s. d. | £ s. d. | £ s. d. |
| 1876 | 0 12 3 | 15 1 3 | 5 18 10 | 21 12 4 |
| 1877 | 1 1 1 | 14 2 5 | 6 4 6 | 21 8 0 |
| 1878 | 0 18 6 | 13 14 2 | 5 6 8 | 19 19 4 |
| 1879 | ..... | 14 11 10 | 4 8 5 | 19 0 3 |
| 1880 | ..... | 16 9 7 | 5 0 10 | 21 10 5 |
| 1881 | 0 18 7 | 14 13 11 | 5 13 10 | 21 6 4 |
| 1882 | 0 14 2 | 15 16 2 | 5 12 5 | 22 2 9 |
| 1883 | 0 12 0 | 18 12 10 | 4 18 8 | 24 3 6 |
| 1884 | 0 1 8 | 15 16 10 | 5 2 2 | 21 0 8 |
| 1885 | 0 1 7 | 12 18 7 | 5 1 2 | 18 1 4 |
| 1886 | 0 0 6 | 11 18 6 | 4 5 3 | 16 4 3 |
| 1887 | 0 0 8 | 14 2 9 | 4 5 3 | 18 8 8 |
| 1888 | 0 3 2 | 14 19 8 | 5 1 2 | 20 4 0 |
| 1889 | 0 6 0 | 16 5 11 | 5 4 11 | 21 16 10 |
| 1890 | 0 2 6 | 15 10 4 | 4 7 4 | 20 0 2 |
| 1891 | 1 2 8 | 17 6 7 | 4 5 1 | 22 14 4 |
| 1892 | 0 0 3 | 15 0 8 | 3 12 6 | 18 13 5 |
| 1893 | 0 0 5 | 14 3 9 | 4 16 10 | 19 1 0 |
| 1894 | 0 5 4 | 12 13 11 | 3 16 2 | 16 15 5 |
| 1895 | 0 17 0 | 12 5 10 | 4 7 11 | 17 10 9 |
| 1896 | 1 6 9 | 11 16 9 | 4 18 8 | 18 2 2 |
| 1897 | 1 6 9 | 11 17 8 | 5 3 9 | 18 8 2 |
| 1898 | 1 6 8 | 12 3 5 | 7 11 2 | 21 1 4 |
| 1899 | 0 19 6 | 13 8 9 | 6 18 4 | 21 6 7 |
| 1900 | 0 19 8 | 12 19 1 | 6 17 2 | 20 15 11 |

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Judged by the volume of its exports per inhabitant, New South Wales compares favourably with any other country whose commerce is at all considerable, as an export of from £16 to £24 can only be paralleled by some few countries, such as Belgium, whose trade is largely made up of re-exports. For the twenty-five years covered by the foregoing statement the exports per inhabitant averaged £19 18s. 3d., falling as low as £16 4s. 3d. in 1886, and reaching £24 3s. 6d. in 1883. Excluding, however, all but domestic produce, the average value of commodities exported was £14 3s. 2d. per inhabitant, and including gold locally produced, £14 14s. 11d. If the prices of commodities had remained constant from year to year, the value of domestic exports would have afforded a ready means by which the progress of productive enterprise might be gauged. Allusion has been made on several occasions in this chapter to the fall in the prices of the great staple exports, and taking all commodities into consideration, the fall during the last twenty-five years has been nearly 30 per cent., the most serious decline having taken place since the year 1884. As the question of prices is reviewed at length elsewhere in the chapter on "Food Supply and Cost of Living," it will here suffice to give the price-levels for various years which are there established, with the remark that during 1899 prices rose considerably, but in 1900 there was a slight falling off :—

| Year. | Price-level. 1900 prices=1,000. | Year. | Price-level. 1900 prices=1,000. |
|---|---|---|---|
| 1876 | 1,424 | 1889 | 1,150 |
| 1877 | 1,306 | 1890 | 1,111 |
| 1878 | 1,300 | 1891 | 1,010 |
| 1879 | 1,349 | 1892 | 956 |
| 1880 | 1,324 | 1893 | 865 |
| 1881 | 1,315 | 1894 | 780 |
| 1882 | 1,357 | 1895 | 799 |
| 1883 | 1,357 | 1896 | 840 |
| 1884 | 1,345 | 1897 | 816 |
| 1885 | 1,181 | 1898 | 864 |
| 1886 | 1,136 | 1899 | 1,079 |
| 1887 | 1,167 | 1900 | 1,000 |
| 1888 | 1,132 | | |

Applying the figures just given to the value of commodities as ascertained on page 112, and adding the value of locally-won gold



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exported, the comparative value of domestic exports for each year is arrived at, on the supposition that the prices of 1900 were obtained during the whole period. The results are as stated in the following table :—

| Year. | Value per Inhabitant of Domestic Exports, including Gold, on the basis of 1900 prices. | Year. | Value per Inhabitant of Domestic Exports, including Gold, on the basis of 1900 prices. |
|---|---|---|---|
| | £ s. d. | | £ s. d. |
| 1876 | 11 3 9 | 1889 | 14 9 5 |
| 1877 | 11 17 4 | 1890 | 14 1 10 |
| 1878 | 11 9 5 | 1891 | 18 5 10 |
| 1879 | 10 16 4 | 1892 | 15 14 9 |
| 1880 | 12 9 11 | 1893 | 16 8 5 |
| 1881 | 12 2 2 | 1894 | 16 10 11 |
| 1882 | 12 7 2 | 1895 | 16 3 1 |
| 1883 | 14 6 9 | 1896 | 15 8 8 |
| 1884 | 11 17 3 | 1897 | 15 17 11 |
| 1885 | 11 0 10 | 1898 | 15 8 5 |
| 1886 | 10 10 5 | 1899 | 13 8 7 |
| 1887 | 12 3 0 | 1900 | 13 8 9 |
| 1888 | 13 7 11 | | |

For the whole period the average exports per inhabitant, computed on the basis of the 1900 prices, amounted to £14 0s. 7d. For the first period of five years the average was £11 11s. 8d. ; for the second five years, £12 16s. 2d ; for the third five years, £12 19s. 8d. ; for the fourth five £16 12s. 7d. ; and for the last five years £14 16s. 1d. The highest value was returned for the five years 1891–95, which period ranks amongst the most productive in the history of the state.

### Increase in Production.

Under the present conditions of development in the state, the export of domestic produce is a very fair indication of its progress in productive pursuits. In the following table the average export of domestic produce per annum is given for the period which elapsed between 1870 and the close of 1900 ; but in order that they may be more easily grasped, as well as to avoid the irregularities of individual years, the figures have been grouped in series of five years. Besides the export of domestic produce, the table shows the average sum paid as interest on loans raised in England, and as earnings of investments held by non-residents. The

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difference between the two sets of figures represents the amount available for the purchase of goods, which come to the state as imports. The bearing of the last two columns will presently appear :—

| Period. | Average Exports of Domestic Produce per annum. | Average sum paid per annum as Interest on Loans raised in England and as Earnings of Investments held by non-residents. | Excess of Exports of Domestic Produce over Interest on Loans and Earnings of Investments by non-residents. |
|---|---|---|---|
| | £ | £ | £ |
| 1870-74 | 7,874,800 | 1,806,800 | 6,068,000 |
| 1875-79 | 9,745,900 | 1,883,400 | 7,862,500 |
| 1880-84 | 13,468,900 | 2,289,000 | 11,179,900 |
| 1885-89 | 14,253,100 | 3,838,000 | 10,415,100 |
| 1890-94 | 17,804,900 | 5,163,900 | 12,641,000 |
| 1895-1900 | 17,676,500 | 4,655,000 | 13,021,500 |

With the exception of the six years 1895–1900, the figures just given show a continuous increase in the exports from period to period, notwithstanding the great fall in prices which has taken place. Against this it may be urged that there has been an increase in population, and in order that the comparison may be exactly on the same lines the following table has been compiled. The figures show the export of domestic produce per head, as well as the average sum paid as interest on loans raised in England and as earnings of investments held by non-residents, the excess of domestic exports over interest on loans and earnings of absentee capital, the last figures being reduced to the level of 1870–74 prices :—

| Period. | Average Exports of Domestic Produce per annum. | Average sum paid per annum as Interest on Loans raised in England and Earnings of Investments held by non-residents. | Excess of Exports of Domestic Produce over Interest on Loans and Earnings of Investments held by non-residents. | Excess of Exports reduced to the common level of 1870–74 prices. |
|---|---|---|---|---|
| | £ | £ | £ | £ |
| 1870–74 | 15·0 | 3·5 | 11·5 | 11·5 |
| 1875–79 | 15·4 | 3·0 | 12·4 | 13·2 |
| 1880–84 | 16·8 | 2·7 | 14·1 | 15·4 |
| 1885–89 | 14·2 | 3·8 | 10·4 | 13·2 |
| 1890–94 | 15·2 | 4·4 | 10·8 | 16·7 |
| 1895–1900 | 13·8 | 3·6 | 10·0 | 14·7 |

It will be seen that although during the thirty years covered by the tables the annual export of domestic produce has risen from £7,874,800 to £17,676,500, in value per head of population it was over £1 less in 1895-1900 than during the period extending from 1870 to 1874. The average sum paid by the state to its outside creditors has

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increased from £1,806,800 to £4,655,000 per year, or from £3·5 to £3·6 per head. The surplus available to pay for imports has risen from £6,068,000 to £13,021,500. Presented as the average per inhabitant, the amount shows a decrease from £11·5 to £10; but when stated in terms of the prices obtained in 1870–74, the excess of exports per head shows an increase of more than 27 per cent.—that is to say, from £11·5 to £14·7 per head.

It will be gathered from the foregoing figures that in spite of the large and increasing amount which the state owes to its outside creditors, and the great fall in prices, the export of domestic produce available to pay for imports shows but little decline, while if prices had remained stationary during the whole period there would have been an increase during the last six years as compared with the first five years of £3·2 per head. The natural satisfaction to which the figures give rise extends to the whole period with the exception of the five years from 1885 to 1889.

An interesting question has been raised as to the effect of the import of British capital on the productive enterprises of the country. The figures available in regard to production do not enable a comparison to be made for the whole period from 1870 to the present time, but making use of the export figures already quoted, and those given in the part dealing with "Private Finance," the following comparison is obtained:—

| Period. | Average Export of Domestic Produce per annum. | | | Average Import of Capital per annum. | |
|---|---|---|---|---|---|
| | Total. | Per inhabitant. | | Total. | Per inhabitant. |
| | | At actual prices. | At 1870–74 prices. | | |
| | £ | £ | £ | £ | £ |
| 1870-74 | 7,874,800 | 15·0 | 15·0 | 921,200 | 1·8 |
| 1875–79 | 9,745,900 | 15·4 | 16·4 | 2,966,200 | 4·7 |
| 1880–84 | 13,468,900 | 16·8 | 18·4 | 4,170,800 | 5·0 |
| 1885–89 | 14,253,100 | 14·2 | 18·0 | 6,482,400 | 6·5 |
| 1890–94 | 17,804,900 | 15·2 | 23·6 | 2,981,800 | 2·5 |
| 1895–1900 | 17,676,500 | 13·6 | 19·9 | 1,187,800 | 1·0 |

Included in the total import of capital for the period 1895–1900 is a considerable sum representing the value of goods imported in view of the imposition of the federal tariff.

The average value of domestic exports, when reduced to the comparative basis of 1870–74 prices, shows £20 per head in 1895–1900 as against an average of £15 in 1870–74, being an increase of 33 per cent. The five years which ended with 1879 show an average export of £15·4 per head, which is equal to £16·4 on the 1870–74 prices; the five years ended 1884 show £16·8 per head, equal to £18·4 on the 1870–74 prices; the five years ended 1889 show £14·2 per head, equal to £18 on the same basis; while the five years ended 1894 show £15·2 per head, equal to £23·6 on the 1870–74 prices. In

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the last two columns of the table just given will be found the average import of capital during each series, and it would seem that during the five years which closed with 1889 an average of £6,482,400 was imported during each year—that is to say, about £6·5 per head. The deduction to be drawn from the foregoing figures is that the years in which an undue importation of capital took place compare unfavourably as regards production with other years in which there was a more moderate import, the lowest point of production being reached in the years when the largest amount of British capital was brought to the country, and the highest during those years in which a very much reduced amount of capital reached these shores.

## Articles of Export.

Wool is the staple export of the state, and comprises nearly one-half the value of the domestic exports. The quantities and values of New South Wales wool exported since 1870 are appended, and from the figures it will readily be seen how greatly the state depends for its prosperity upon the produce of its flocks. The table represents the actual exports of wool grown in the state, washed and greasy being taken together :—

| Year. | Weight. | Value. | Year. | Weight. | Value. |
|---|---|---|---|---|---|
| | lb. | £ | | lb. | £ |
| 1870 | 47,440,610 | 2,741,141 | 1892 | 312,225,293 | 10,211,456 |
| 1875 | 87,534,280 | 5,651,643 | 1893 | 318,782,858 | 9,675,061 |
| 1880 | 154,871,832 | 8,040,625 | 1894 | 331,774,424 | 9,011,790 |
| 1885 | 168,151,659 | 7,246,642 | 1895 | 297,448,104 | 8,958,690 |
| 1886 | 173,985,640 | 7,028,596 | 1896 | 272,033,262 | 8,776,529 |
| 1887 | 216,450,342 | 8,911,155 | 1897 | 258,514,280 | 8,023,893 |
| 1888 | 235,848,944 | 9,089,776 | 1898 | 249,066,912 | 8,329,287 |
| 1889 | 261,853,484 | 10,620,636 | 1899 | 205,394,780 | 10,020,495 |
| 1890 | 236,322,828 | 8,991,396 | 1900 | 203,738,195 | 7,632,213 |
| 1891 | 331,887,720 | 11,036,018 | | | |

The export of domestic wool in 1891, both as regards value and quantity, was the highest ever attained, the increase over the previous year being 95,564,892 lb., valued at £2,044,622. A large portion of this advance, however, was not due to increased production, but to the circumstance that in 1890 the growers were unable to get part of their

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produce to market by reason of the general strike to which reference has already been made. Considered in this light, the decrease in 1892, as compared with 1891, of 19,662,427 lb., of the value of £824,562, was more apparent than real. In 1894, however, the domestic export nearly reached the quantity shipped in 1891, being only 113,296 lb. smaller; but it is a striking illustration of the fall in prices to find the value £2,024,228 less than in that year. During the next six years the seasons were unpropitious, and the export fell from 331,774,424 lb. to 203,738,195 lb. in 1900. There was, however, a rise in the price during this period, and the values were, therefore, not reduced to a corresponding extent.

A marked feature of the wool trade is the growing disposition of buyers on the Continent of Europe to purchase their supplies direct from the state instead of obtaining them through the London brokers. Year by year the representatives of foreign manufacturers who visit Sydney for the purpose of attending the wool sales become more numerous. Eighteen years ago all the wool destined for Europe may be said to have found its way to London, while in 1900 the shipments of the staple of local growth to Belgium, France, Germany, Italy, and Austria amounted to 52,269,585 lb., valued at £2,016,614. The growth of a direct trade with the Continent is desirable, both in the interest of the foreign consumer and of the grower, as the profit of the middleman, as well as the cost of additional carriage and handling, is thereby saved. The following table shows the increase in the quantity of domestic wool shipped direct to the Continent during the past fifteen years:—

| Year. | Quantity. | | Value. |
|---|---|---|---|
| | Weight. | Proportion of Total Domestic Export. | |
| | lb. | per cent. | £ |
| 1886 | 17,307,973 | 9·9 | 537,472 |
| 1887 | 22,009,275 | 10·2 | 715,084 |
| 1888 | 29,023,106 | 12·2 | 906,526 |
| 1889 | 35,933,721 | 13·7 | 1,285,494 |
| 1890 | 42,300,222 | 17·9 | 1,509,686 |
| 1891 | 64,207,855 | 19·3 | 1,838,740 |
| 1892 | 85,334,191 | 27·3 | 2,568,685 |
| 1893 | 88,858,560 | 27·9 | 2,629,322 |
| 1894 | 98,316,430 | 29·7 | 2,627,658 |
| 1895 | 91,320,974 | 30·7 | 2,688,846 |
| 1896 | 73,175,615 | 26·9 | 2,372,729 |
| 1897 | 76,443,419 | 29·6 | 2,409,710 |
| 1898 | 73,241,121 | 29·4 | 2,185,336 |
| 1899 | 80,260,481 | 39·1 | 3,975,727 |
| 1900 | 52,269,585 | 25·7 | 2,016,614 |

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The figures for 1900 show a marked falling off from the returns of the previous year, and the value is the lowest recorded since 1891. It must be noted, however, that in 1899 the wool market reached a stage of unexampled prosperity, but in the following year the fall in prices caused a collapse. For the season 1900-1 the average price per bale realised for greasy and clean wool was only £9 11s., as compared with £18 10s. 1d. in 1899-1900.

Besides the clip of the state, there is a large export from New South Wales ports of other wool, chiefly the produce of Queensland. In 1885 the export of foreign wool amounted to slightly more than 10,000,000 lb. weight, valued at £429,399; but the returns for the next six years showed a great decrease from these figures. In 1892 the export again exceeded 10,000,000 lb.; and thenceforward it increased by leaps and bounds, reaching 34,791,096 lb. in 1896, although the following year saw a decline in the quantity shipped, due to the dry season. In 1899 the export amounted to 34,624,714 lb, valued at £1,718,112, and this is the largest amount yet realised, exceeding the value for 1896 by £597,309, although the quantity exported was 166,382 lb. less than in that year—a result due to the advance in the price of the product during 1899. In 1900 the weight of foreign wool exported was 17,526,889 lb., which was valued at £710,339. The exports as returned by the Customs are given below; but the quantities in some of the earlier years fall short of the actual amounts, as not a little wool, the produce of other places, was exported as New South Wales wool; but the figures of late years are more carefully adjusted, and may be considered as substantially correct :—

| Year. | Weight. | Value. | Year. | Weight. | Value. |
|---|---|---|---|---|---|
| | lb. | £ | | lb. | £ |
| 1880 | 7,614,490 | 431,605 | 1893 | 26,200,018 | 774,850 |
| 1885 | 10,221,766 | 429,399 | 1894 | 22,391,022 | 616,333 |
| 1886 | 4,664,971 | 173,380 | 1895 | 32,544,571 | 1,017,354 |
| 1887 | 7,844,867 | 288,916 | 1896 | 34,791,096 | 1,120,803 |
| 1888 | 7,407,309 | 268,739 | 1897 | 27,283,445 | 896,392 |
| 1889 | 4,375,545 | 164,434 | 1898 | 31,881,494 | 1,128,248 |
| 1890 | 7,415,438 | 241,276 | 1899 | 34,624,714 | 1,718,112 |
| 1891 | 8,803,662 | 276,962 | 1900 | 17,526,889 | 710,399 |
| 1892 | 10,826,721 | 328,691 | | | |

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The other products of the pastoral industry form an export of considerable value. The shipments of tallow, hides and skins, and leather are given in the following table, commencing with the year 1891 :—

| Year. | Tallow. | | Hides and Skins. | Leather. |
|---|---|---|---|---|
| | Quantity. | Value. | | |
| | cwt. | £ | £ | £ |
| 1891 | 304,200 | 304,599 | 487,177 | 137,293 |
| 1892 | 423,306 | 432,322 | 691,261 | 178,215 |
| 1893 | 657,870 | 744,331 | 615,365 | 195,173 |
| 1894 | 847,236 | 890,691 | 407,122 | 230,917 |
| 1895 | 794,920 | 773,105 | 611,504 | 279,281 |
| 1896 | 404,054 | 353,566 | 339,474 | 324,989 |
| 1897 | 485,102 | 400,121 | 466,664 | 292,220 |
| 1898 | 331,842 | 310,697 | 485,496 | 323,358 |
| 1899 | 247,052 | 276,706 | 477,461 | 421,439 |
| 1900 | 309,060 | 375,855 | 360,713 | 420,702 |

The number and value of the live stock exported have varied considerably from year to year, being affected greatly by the seasons experienced both in this state and in the neighbouring provinces. The export of horses has increased both in number and in value ; and the same may be said of the imports, though it should be borne in mind that the figures in respect of horses are to some extent misleading, as the number of thoroughbred racing animals carried between Sydney and Melbourne, which are entered as exports and imports, gives more importance to the trade than its magnitude really warrants. Included in the total exports for 1900 were 7,714 horses, valued at £124,485, which were shipped to South Africa for use by the British troops in the Transvaal.

In 1900 the export of horned cattle declared to be the produce of New South Wales amounted to 40,216 head, valued at £247,663, and the import to 82,132, valued at £338,126. The export of sheep during the year was 742,504, worth £449,633 ; and the import reached 656,699 in number, and in value, £374,678. But, as in the case of horses, the figures for the export and import of other live stock are to a certain extent misleading, inasmuch as the returns are swollen by the inclusion

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of stock sent from one state to another in the hope of obtaining better pasturage, or for fattening or breeding purposes. The general tendency of the trade in 1900 may, however, be gathered from the table below, the export figures comprising both home-reared and other stock :—

| Live stock. | Imported. | | Exported. | |
|---|---|---|---|---|
| | Number. | Value. | Number. | Value. |
| | | £ | | £ |
| Horses | 6,909 | 130,040 | 22,979 | 388,665 |
| Horned cattle | 82,132 | 338,126 | 50,463 | 308,077 |
| Sheep | 656,699 | 374,678 | 754,849 | 460,719 |
| Pigs | 5,545 | 7,645 | 4,262 | 5,291 |
| Other stock | ..... | 3,376 | ..... | 1,769 |
| Total | ..... | 853,865 | ..... | 1,164,521 |

Shipments of the principal minerals are also made on an important scale. Coal forms one of the staple exports of New South Wales, the quantity shipped in 1900 reaching 3,369,332 tons, valued at £1,273,034. This quantity is the largest which has so far been shipped in any one year. The development of the coal trade of the state is traced in the chapter on "Mines and Minerals," and it is unnecessary to pursue the subject further here.

The export of silver and silver-lead ore has become important since 1884, the value for 1893 amounting to £3,031,720, although, in consequence of the great fall in the price of the metal, due to the closing of the Indian mints and the stoppage of purchases by the United States Government, the value of the export greatly declined, being only £1,704,055 in 1898. The year 1900, however, witnessed a revival in production, the value of the export being £2,604,117. Extensive development has taken place in the copper-mining industry within recent years, the export of the mineral of local production increasing from £197,814 in 1896 to £425,301 in 1900. Seventeen years ago the industry contributed about half a million to the exports of the state; but there was a steady decline from 1883 to 1894, when the value of the shipments of locally-produced copper was only £63,617. The satisfactory prices realised during the past two years had a stimulating effect on the industry, and a similar cause accounts for the increase in the production of tin, the net exports of which rose from £68,546 in 1896 to £90,482 in 1899 and to £142,724 in 1900. According to the Customs returns, the export of New South Wales copper and tin in 1900 was £501,330 and £171,874 respectively; but these figures require adjustment, being swollen by ore from other states, particularly from Queensland and South Australia, sent to be refined in New South Wales.

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Gold bullion and specie form one of the most important exports of the state. The export during 1870 and subsequent periods was as shown below :—

| Year. | £ | Year. | £ |
|---|---|---|---|
| 1870 | 1,824,524 | 1892 | 2,263,661 |
| 1875 | 2,106,074 | 1893 | 2,995,777 |
| 1880 | 863,012 | 1894 | 2,308,264 |
| 1885 | 1,461,478 | 1895 | 3,145,557 |
| 1886 | 1,619,278 | 1896 | 3,886,490 |
| 1887 | 1,318,917 | 1897 | 4,755,385 |
| 1888 | 2,122,337 | 1898 | 6,933,645 |
| 1889 | 3,211,747 | 1899 | 4,412,217 |
| 1890 | 2,289,022 | 1900 | 5,850,300 |
| 1891 | 3,732,894 | | |

Taken by itself, the foregoing statement might seem to favour the opinion sometimes hazarded that the state is being denuded of its gold. Such, however, is not the case. The gold shipped is chiefly the produce of other states, sent to Sydney to be minted. The amount of gold raised in the state during 1900 was valued at £1,194,521, while the domestic bullion and specie exported is estimated at £1,330,249. This, however, was an exceptional year ; usually only a limited quantity of the amount exported is of local production.

Divided into the classes adopted for the imports, the exports of home produce in 1900 appear as follow :—

| | £ |
|---|---|
| Food and beverages, including breadstuffs | 1,956,857 |
| Wines, fermented and spirituous liquors | 13,134 |
| Live stock | 1,072,546 |
| Animal and vegetable products, including wool | 9,213,143 |
| Clothing and textile fabrics | 55,977 |
| Minerals and metals, raw or partly worked up, including silver bullion, lead, and ore | 3,585,628 |
| Coal, coke, &c. | 1,335,454 |
| Specie and gold bullion | 1,330,249 |
| Articles of education, art, and amusement | 19,602 |
| Manufactured articles not included elsewhere | 228,390 |
| Unclassified articles | 62,508 |
| Total | £18,873,488 |

By far the larger portion of the exports consists of raw materials. As a country manufacturing for export New South Wales has not yet achieved any position ; and though its manufactures are not without their importance, as will hereafter appear, its own markets furnish so wide a scope for manufacturing industry as to make it improbable that there will be any great development of export trade in home manufactures in the immediate future. So many channels have been presented for

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the successful employment of capital that little attention has been bestowed upon the possibility of New South Wales supplying other countries with its own manufactures; but as these outlets of capital are closed, the vast possibilities of the country in other directions will doubtless be recognised. The following table has been prepared with the view of showing the relative importance, and the value per head of population, of the principal articles exported during the last five years. The preponderance of raw material, and raw material advanced one stage towards the finished manufacture, is apparent:—

| Article. | 1896. | 1897. | 1898. | 1899. | 1900. |
|---|---|---|---|---|---|
| | s. d. | s. d. | s. d. | s. d. | s. d. |
| Butter | 1 7 | 4 0 | 5 8 | 5 1 | 6 5 |
| Coal and coke | 14 2 | 15 1 | 14 11 | 15 6 | 19 7 |
| Copper | 3 2 | 4 8 | 4 3 | 7 0 | 7 4 |
| Fruit (Green) | 1 7 | 1 5 | 2 0 | 1 5 | 1 4 |
| Grain, pulse, etc.— | | | | | |
| Wheat | 0 1 | 4 4 | 3 5 | 0 8 | 5 1 |
| Maize | 0 1 | 0 2 | 0 4 | 0 5 | 0 2 |
| Flour | 3 1 | 5 2 | 2 8 | 0 9 | 2 6 |
| Leather | 5 1 | 4 6 | 4 11 | 6 3 | 6 2 |
| Live stock— | | | | | |
| Cattle | 2 5 | 2 10 | 3 11 | 1 6 | 3 8 |
| Horses | 1 11 | 2 6 | 2 7 | 2 11 | 5 5 |
| Sheep | 3 9 | 5 10 | 7 3 | 7 4 | 6 7 |
| Meat | 9 5 | 7 7 | 9 10 | 8 11 | 12 0 |
| Shale (kerosene) | 0 6 | 0 8 | 0 5 | 0 3 | 0 6 |
| Silver bullion, lead, and ore | 27 11 | 26 2 | 25 9 | 30 9 | 38 3 |
| Skins and hides | 5 4 | 7 2 | 7 4 | 7 1 | 5 4 |
| Tallow | 5 6 | 6 2 | 4 8 | 4 1 | 5 6 |
| Timber (dressed and rough) | 0 8 | 0 10 | 1 1 | 1 2 | 1 0 |
| Tin | 1 7 | 1 1 | 0 11 | 2 3 | 2 6 |
| Wool | 137 4 | 123 6 | 126 0 | 149 0 | 112 0 |

The total values of some of the principal articles of home produce exported during 1900 were as follow:—

| | £ | | £ |
|---|---|---|---|
| Butter | 436,786 | Meat | 819,370 |
| Coal and coke | 1,373,585 | Oils | 118,122 |
| Copper (net export) | 425,301 | Shale, Kerosene | 36,276 |
| Fruit | 92,243 | Silver and ore | 2,604,177 |
| Grain and pulse— | | Skins and hides | 360,713 |
| Flour | 170,136 | Tallow | 375,855 |
| Wheat | 348,458 | Timber | 99,473 |
| Other | 60,026 | Tin (net export) | 142,724 |
| Leather | 420,702 | Wire-netting | 48,585 |
| Live stock | 1,070,770 | Wool | 7,632,213 |
| Manures | 57,06 | | |

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## Re-Export Trade.

The re-export trade of the state increased considerably until 1889, but during the next few years a marked decline was experienced. In 1895, however, an improvement was manifested, and this has continued, the re-exports in 1900 being higher than in any previous year with the exception of 1898. The shipping facilities of Sydney at one time attracted to the port a large amount of trade from New Zealand, Queensland, and the South Seas, for transhipment to Europe; but the establishment of direct communication between those states and Europe checked to some extent the expansion of the re-export trade. The re-export trade overland is comparatively limited, amounting in 1900 to £367,094, out of a total of £9,291,028. The total value of the re-exports of the state, and the value of the gold bullion and specie included therein, during the periods mentioned, were as shown below. It will be seen that gold, consisting largely of Queensland metal coined at the Mint, and shipped to London and the United States by the banks, forms a large proportion of the trade:—

| Year. | Re-exports. | | | Gold Bullion and Coined Metals included in the foregoing. |
|---|---|---|---|---|
| | Seaward. | Overland. | Total. | |
| | £ | £ | £ | £ |
| 1870 | 2,886,267 | 8,210 | 2,894,477 | 1,491,893 |
| 1875 | 3,783,785 | 4,008 | 3,787,793 | 1,459,057 |
| 1880 | 3,626,991 | 47,880 | 3,674,871 | 838,115 |
| 1885 | 4,525,883 | 164,944 | 4,690,827 | 1,448,534 |
| 1886 | 3,999,328 | 135,380 | 4,134,708 | 1,588,756 |
| 1887 | 4,120,184 | 161,254 | 4,281,438 | 1,278,162 |
| 1888 | 4,684,752 | 552,986 | 5,237,738 | 1,944,327 |
| 1889 | 5,222,288 | 372,253 | 5,594,541 | 2,880,883 |
| 1890 | 4,626,606 | 186,606 | 4,813,212 | 2,289,022 |
| 1891 | 4,567,759 | 290,549 | 4,858,308 | 2,445,825 |
| 1892 | 4,145,912 | 119,233 | 4,265,145 | 2,276,757 |
| 1893 | 5,191,249 | 635,761 | 5,827,010 | 2,979,292 |
| 1894 | 4,518,505 | 154,207 | 4,672,712 | 1,996,106 |
| 1895 | 5,047,623 | 450,952 | 5,498,575 | 2,090,592 |
| 1896 | 6,030,541 | 237,117 | 6,267,658 | 2,201,188 |
| 1897 | 6,534,018 | 159,511 | 6,693,529 | 3,050,225 |
| 1898 | 9,791,690 | 129,360 | 9,921,050 | 5,213,850 |
| 1899 | 8,978,903 | 244,709 | 9,223,612 | 3,173,998 |
| 1900 | 8,923,934 | 367,094 | 9,291,028 | 4,584,471 |

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The following table shows the value of the principal articles of other than domestic produce and manufacture exported during 1900 :—

| | £ |
|---|---|
| Animals, Live | 93,751 |
| Apparel, Wearing | 45,739 |
| Bags and sacks | 66,433 |
| Beer and ale | 19,153 |
| Bicycles, etc. | 25,640 |
| Boots and shoes | 34,564 |
| Copper | 2,777 |
| Copra | 35,075 |
| Drapery | 417,694 |
| Drugs, chemicals, etc. | 122,331 |
| Flour | 27,364 |
| Fruit, Fresh and dried | 33,829 |
| Furniture and upholstery | 21,600 |
| Gold bullion and coined metals | 4,584,471 |
| Hardware | 127,540 |
| Horns | 14,504 |
| Iron and steel— | |
| Manufactured wrought | 94,853 |
| Wire—black and galvanised | 44,627 |
| Galvanised sheets and bars | 62,223 |
| Jewellery and precious stones | 80,558 |
| Lead | 62,524 |
| Leather | 14,858 |
| Machinery | 237,015 |
| Meats | 74,869 |
| Paper, books, etc. | 111,813 |
| Potatoes | 44,422 |
| Skins and hides | 395,815 |
| Spirits | 53,520 |
| Sugar | 156,658 |
| Tallow | 78,650 |
| Tea | 78,744 |
| Timber | 40,163 |
| Tin | 60,833 |
| Tobacco, cigars, and cigarettes | 84,230 |
| Wool | 710,399 |

Amongst raw commodities the principal articles re-exported are tallow, skins and hides, copra, tin, and wool; while the manufactured articles are chiefly drapery, apparel, hardware, iron and steel, machinery, drugs and chemicals, books and stationery, boots, beer and spirits, tobacco, cigars and cigarettes, and also large quantities of provisions. There is

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also a large re-export of gold. Grouped under the several heads already adopted for the imports and exports, the value of the re-export trade for the year 1900 was as follows :—

| | £ |
|---|---|
| Food and beverages, including breadstuffs | 583,114 |
| Wines, fermented and spirituous liquors | 91,857 |
| Live stock | 93,751 |
| Animal and vegetable products, including wool | 1,582,409 |
| Clothing and textile fabrics | 607,536 |
| Minerals and metals, raw or partly worked up, including silver bullion, lead, and ore | 423,971 |
| Specie and gold bullion | 4,582,461 |
| Articles of education, art, and amusement | 255,291 |
| Manufactured articles not elsewhere included | 860,302 |
| Articles unclassified by Customs | 205,336 |
| Total | £9,291,028 |

## Overland Trade.

As the major portion of the goods exported overland simply passes through the border states of Victoria and South Australia to Great Britain, the diversion of the trade along the railways of the state to its ports must be looked upon as a distinct gain. It was believed that the extension of the trunk lines to the centres of the pastoral industry would have the effect of permanently diverting a considerable amount of trade from Victoria and South Australia, but it will be seen from figures in another part of this volume that such diversion has only been partial. The condition of the Darling and other western rivers exercises a marked influence on the overland trade, especially in wool; and it is found that when the rivers are not easily navigable a larger proportion of this staple reaches the eastern seaboard than is the case in other seasons. A marked increase in the total trade will be noticed in 1886 and the following years, and in 1891 the value of the trade was more than twofold that of the year first mentioned; but there was a large falling off in 1892, mainly owing to the strike at Broken Hill, the decline in the total value of imports and exports at the Willyama Custom House alone amounting to no less than £1,988,961. This was in no small degree due to the diminished requirements of the population of the Broken Hill silver-fields, whose natural outlet is by way of Adelaide, which is connected by rail with Broken Hill. The slight revival in the overland trade in 1893 was due to the greater imports and exports of gold in consequence of the financial crisis; while the decline in the exports in 1894 and 1895 was chiefly caused by the great fall in the price of silver in 1894, and by a fire in the workings of the principal mine in 1895, which adversely affected the industry in the Barrier district; and in the imports, to a number of causes, amongst which were a smaller import of live stock from Queensland and the still further contraction of the goods introduced for consumption at Broken Hill. In 1896 and 1897 the imports overland were much higher than

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in any year since 1891, while in 1898 they reached £5,678,201, being the highest figure yet recorded, due to the large imports of gold coin from Victoria. In 1898 the exports overland were over £375,000 less than those of the preceding year—accounted for by a decrease in the quantity of wool finding an outlet for shipment in the other states. While the imports overland in 1899 and 1900 were less than those shown for 1898, the volume of exports considerably increased, the figures for 1900 being the highest since 1893:—

| Year. | Imports. | Exports. | Total. |
|---|---|---|---|
| | £ | £ | £ |
| 1870 | 1,071,087 | 2,177,813 | 3,248,900 |
| 1875 | 1,460,528 | 4,343,729 | 5,804,257 |
| 1880 | 1,438,155 | 4,768,542 | 6,206,697 |
| 1885 | 2,611,130 | 3,405,073 | 6,016,203 |
| 1886 | 2,039,168 | 4,251,800 | 6,290,968 |
| 1887 | 3,166,573 | 5,231,454 | 8,398,027 |
| 1888 | 3,040,010 | 5,559,681 | 8,599,691 |
| 1889 | 3,150,698 | 6,919,491 | 10,070,189 |
| 1890 | 4,707,341 | 8,026,376 | 12,733,717 |
| 1891 | 4,319,204 | 8,630,248 | 12,949,452 |
| 1892 | 2,928,417 | 6,034,211 | 8,962,628 |
| 1893 | 2,698,011 | 6,706,936 | 9,404,947 |
| 1894 | 1,788,654 | 5,222,089 | 7,010,743 |
| 1895 | 1,783,368 | 4,748,129 | 6,531,497 |
| 1896 | 3,125,671 | 4,769,738 | 7,895,409 |
| 1897 | 3,931,292 | 4,498,619 | 8,429,911 |
| 1898 | 5,678,201 | 4,121,784 | 9,799,985 |
| 1899 | 3,464,320 | 4,961,495 | 8,425,815 |
| 1900 | 4,304,164 | 5,849,139 | 10,153,303 |

## Trade with the United Kingdom.

The trade of the United Kingdom with the state holds a high position, and although the value of the direct imports and exports is now less than the nominal amount of interstate trade, yet the commerce transacted with the mother country is much larger than the actual trade done with the neighbouring states; for the bulk of the produce exported overland to Victoria and South Australia is in reality destined for England, and, likewise, a good proportion of the imports from those two states for the supply of the wants of those inhabitants of New South Wales dwelling contiguous to the borders is the produce or manufacture of Great Britain. Thus, in 1900 the imports entered from the United Kingdom amounted to £9,923,117, and the exports thereto to £8,273,272, making a total of £18,196,389; but it is probable that the actual trade transacted with the mother country was over £23,000,000. In the following table, therefore, the values of the imports from and exports to the United Kingdom, from 1870 to 1900, must be accepted with this qualification, that they do not include the produce sent overland for shipment at Melbourne and South Australian ports, nor the

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imports from the mother country finding their way into New South Wales through the southern states :—

| Year. | Imports. | Exports. | Total British trade. |
|---|---|---|---|
| | £ | £ | £ |
| 1870 | 3,200,706 | 2,492,640 | 5,693,346 |
| 1875 | 6,062,226 | 6,374,503 | 12,436,729 |
| 1880 | 6,536,661 | 7,525,637 | 14,062,298 |
| 1885 | 11,885,597 | 7,293,133 | 19,178,730 |
| 1890 | 8,628,007 | 6,623,431 | 15,251,438 |
| 1891 | 10,580,230 | 8,855,465 | 19,435,695 |
| 1892 | 8,883,983 | 7,653,915 | 16,537,898 |
| 1893 | 7,218,124 | 8,269,507 | 15,487,631 |
| 1894 | 5,983,489 | 7,956,377 | 13,939,866 |
| 1895 | 6,420,107 | 9,371,418 | 15,791,525 |
| 1896 | 7,190,115 | 8,375,883 | 15,565,998 |
| 1897 | 7,557,069 | 8,728,828 | 16,285,897 |
| 1898 | 7,744,418 | 7,734,880 | 15,479,298 |
| 1899 | 8,211,351 | 8,992,480 | 17,203,831 |
| 1900 | 9,923,117 | 8,273,272 | 18,196,389 |

## Australasian Trade.

The foregoing remarks will have made it plain that by far the larger part of the interstate trade must be credited to the United Kingdom, as the natural outlet for the produce of the southern and western districts is by way of Victoria and South Australia. Thus, out of £11,512,685 imported by New South Wales during 1900 from the other states and New Zealand, goods to the value of £4,933,000 only, excluding bullion and specie, were the produce of the places from which they were received, and out of the £10,805,876 exports only £5,811,000 were retained for local consumption by the provinces to which they were sent. The nominal value of the interstate and New Zealand trade since 1870 was as follows :—

| Year. | Imports. | Exports. | Total trade. |
|---|---|---|---|
| | £ | £ | £ |
| 1870 | 3,677,927 | 3,837,680 | 7,515,607 |
| 1875 | 5,878,751 | 6,570,127 | 12,448,878 |
| 1880 | 5,945,788 | 7,381,172 | 13,326,960 |
| 1885 | 8,595,429 | 6,936,139 | 15,531,568 |
| 1890 | 10,981,721 | 11,284,740 | 22,266,461 |
| 1891 | 11,127,178 | 11,603,170 | 22,730,348 |
| 1892 | 9,201,193 | 8,917,677 | 18,118,870 |
| 1893 | 8,895,787 | 9,881,038 | 18,776,825 |
| 1894 | 7,794,168 | 8,243,954 | 16,038,122 |
| 1895 | 7,321,668 | 7,590,985 | 14,912,653 |
| 1896 | 9,559,860 | 8,374,826 | 17,934,686 |
| 1897 | 9,602,277 | 8,174,666 | 17,776,943 |
| 1898 | 12,467,059 | 8,675,199 | 21,142,258 |
| 1899 | 12,113,402 | 9,524,267 | 21,637,669 |
| 1900 | 11,512,685 | 10,805,876 | 22,318,561 |

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The total trade of the Australasian provinces with New South Wales increased largely from 1885 to 1891, due almost entirely to the trade which sprang up with the working of the Barrier silver mines. The province of South Australia lies between the western district of New South Wales and the sea, and practically the whole of the trade of the Broken Hill district passes through that state, and swells the volume of commerce credited to it. It will be seen from the following table, which distinguishes the seaward from the overland portion, that the nominal interstate trade reached its highest point in 1891, when the value was returned at £22,730,348. From this year onward there was a decline till 1895, when the value was only £14,912,653. Thenceforward, however, there was a consistent upward tendency, the total value in 1900 reaching £22,318,561.

| Year. | Seaward. | Overland. | Total. |
|---|---|---|---|
| | £ | £ | £ |
| 1885 | 9,515,865 | 6,016,203 | 15,531,568 |
| 1886 | 9,500,481 | 6,290,966 | 15,791,447 |
| 1887 | 9,612,332 | 8,398,027 | 18,010,359 |
| 1888 | 10,100,491 | 8,599,691 | 18,700,182 |
| 1889 | 11,318,168 | 10,070,189 | 21,388,357 |
| 1890 | 9,532,744 | 12,733,717 | 22,266,461 |
| 1891 | 9,780,896 | 12,949,452 | 22,730,348 |
| 1892 | 9,156,242 | 8,962,628 | 18,118,870 |
| 1893 | 9,371,878 | 9,404,947 | 18,776,825 |
| 1894 | 9,027,379 | 7,010,743 | 16,038,122 |
| 1895 | 8,381,156 | 6,531,497 | 14,912,653 |
| 1896 | 10,039,277 | 7,895,409 | 17,934,686 |
| 1897 | 9,347,032 | 8,429,911 | 17,776,943 |
| 1898 | 11,342,273 | 9,799,985 | 21,142,258 |
| 1899 | 13,211,854 | 8,425,815 | 21,637,669 |
| 1900 | 12,165,258 | 10,153,303 | 22,318,561 |

As already pointed out, a great proportion of the produce of New South Wales which is sent overland is ultimately destined for European markets, and similarly with the imports from the other states, a large part of this trade represents goods which have originally come from Great Britain but have been purchased in the Melbourne and Adelaide markets, or are passing through those ports as being the nearest routes to their destination. It is estimated that the value of goods the produce of New South Wales consumed in the various states was



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£5,811,000 in 1900, and the value of the produce of the other states consumed in New South Wales, excluding coin and bullion, was £4,933,000. If from the value of New South Wales exports there be deducted £843,146 the apparent value of domestic live stock exported to the adjacent provinces it will be seen that the Australasian markets consume a very small quantity of the goods of this state.

## VICTORIA.

Victoria comes first amongst the provinces of the group, as regards its trade with New South Wales, although Queensland displaced it during the four years 1893-96. It is estimated that prior to the extension of the railway system of New South Wales into the Riverine districts, nearly one-fourth of its territory, comprising some of its richest portions, traded almost exclusively with Victoria. This traffic has now, to a great extent, been diverted along New South Wales lines to Sydney; and the trade of the state with Victoria, instead of increasing with the settlement of those districts, has been declining, the apparent increase during the last few years resulting from large imports of gold coin. The following table shows the trade of the year 1870, and of subsequent periods up to 1900:—

| Year. | Imports. | Exports. | Total. |
|---|---|---|---|
| | £ | £ | £ |
| 1870 | 1,153,695 | 2,583,552 | 3,737,247 |
| 1875 | 2,066,156 | 4,269,770 | 6,335,926 |
| 1880 | 2,187,119 | 4,578,867 | 6,765,986 |
| 1885 | 3,309,696 | 3,450,796 | 6,760,492 |
| 1890 | 2,097,259 | 5,386,553 | 7,483,812 |
| 1891 | 2,818,935 | 5,443,663 | 8,262,598 |
| 1892 | 2,432,399 | 4,278,907 | 6,711,306 |
| 1893 | 2,020,421 | 3,620,302 | 5,640,723 |
| 1894 | 1,583,206 | 3,129,663 | 4,712,869 |
| 1895 | 1,499,592 | 3,078,017 | 4,577,609 |
| 1896 | 2,115,721 | 3,296,451 | 5,412,172 |
| 1897 | 2,854,497 | 2,961,988 | 5,816,485 |
| 1898 | 5,301,214 | 3,294,618 | 8,595,832 |
| 1899 | 2,905,656 | 3,703,278 | 6,608,934 |
| 1900 | 3,396,782 | 3,977,828 | 7,374,610 |

The import trade of the state with Victoria covers a large range of articles, and in this respect differs from the export, which mainly comprises three leading items of raw produce—wool, live stock, and coal. Dividing the imports from Victoria into two classes, viz., Victorian and other produce, the chief imports under the former class are agricultural implements, butter, breadstuffs, fruit, oats, hay and other fodder, and vegetables; while under the second head come drapery and apparel, drugs, hardware, iron, machinery, stationery, tea, raw sugar, and various

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manufactured articles. Victorian produce, properly so called, comes chiefly to Sydney; the other articles are taken by the southern and western portions of the state, which have for many years looked to Victoria as a market whence such supplies are to be derived. The following are the values of the principal items of import from Victoria during the last five years :—

| Description of Goods. | 1896. | 1897. | 1898. | 1899. | 1900. |
|---|---|---|---|---|---|
| | £ | £ | £ | £ | £ |
| Agricultural implements | 44,218 | 58,142 | 65,249 | 50,599 | 48,661 |
| Animals (live) | 126,965 | 151,173 | 117,120 | 130,867 | 280,762 |
| Bags and sacks | 33,916 | 27,628 | 25,122 | 22,517 | 37,566 |
| Beer (in wood and bottle) | 14,875 | 15,763 | 15,619 | 15,868 | 16,096 |
| Boots and shoes | 27,446 | 39,540 | 32,237 | 32,997 | 43,605 |
| Butter | 34,101 | 32,373 | 7,604 | 57,436 | 18,693 |
| Candles | 3,535 | 3,283 | 2,554 | 2,925 | 3,754 |
| Cordage and rope | 7,126 | 11,908 | 10,134 | 15,632 | 17,303 |
| Drapery | 139,300 | 131,818 | 122,337 | 124,229 | 139,304 |
| Drugs and apothecaries' wares | 18,905 | 14,007 | 15,109 | 14,605 | 13,863 |
| Earthenware and china | 5,151 | 5,682 | 5,129 | 4,072 | 4,420 |
| Fancy goods and toys | 11,458 | 11,781 | 10,948 | 9,305 | 8,850 |
| Fish (preserved) | 5,697 | 5,901 | 5,317 | 9,227 | 10,634 |
| Flour | 13,366 | 3,399 | 47,312 | 110,618 | 21,118 |
| Fruit — Green | 29,429 | 34,156 | 21,749 | 31,835 | 34,067 |
| Fruit — Dried | 7,777 | 8,723 | 12,244 | 14,077 | 14,688 |
| Furniture and upholstery | 22,074 | 23,035 | 20,139 | 22,035 | 23,429 |
| Gold (coin, bars, and dust) | 443,374 | 1,076,319 | 3,489,150 | 663,621 | 1,394,121 |
| Grain and pulse — Wheat | 25,072 | 1,108 | 61,555 | 93,196 | 2,957 |
| Grain and pulse — Oats | 3,801 | 9,645 | 30,755 | 17,014 | 7,606 |
| Grain and pulse — Other | 10,585 | 7,829 | 13,987 | 36,102 | 25,604 |
| Hardware | 31,706 | 30,529 | 25,980 | 37,322 | 30,556 |
| Hay and chaff | 66,340 | 138,503 | 160,896 | 303,919 | 78,657 |
| Iron and steel goods | 60,516 | 59,966 | 56,602 | 73,842 | 81,089 |
| Jams and jellies | 2,783 | 3,743 | 5,473 | 8,737 | 10,789 |
| Jewellery | 9,638 | 12,178 | 9,493 | 7,125 | 6,122 |
| Leather | 19,387 | 21,787 | 24,473 | 25,442 | 32,496 |
| Machinery | 89,874 | 103,455 | 110,366 | 106,685 | 124,976 |
| Malt and hops | 22,046 | 23,443 | 21,459 | 8,129 | 8,028 |
| Musical instruments | 6,303 | 6,384 | 7,549 | 7,624 | 9,399 |
| Oatmeal | 13,099 | 11,003 | 12,536 | 10,760 | 4,552 |
| Oilmen's stores | 5,600 | 5,227 | 5,678 | 6,786 | 8,658 |
| Oils | 22,548 | 21,656 | 19,301 | 24,025 | 19,869 |
| Paper, books, stationery, etc. | 52,493 | 43,774 | 31,091 | 52,072 | 54,801 |
| Potatoes | 18,258 | 34,936 | 19,086 | 23,760 | 16,661 |
| Saddlery and harness | 6,444 | 8,205 | 6,637 | 4,008 | 5,623 |
| Soap | 9,871 | 8,829 | 10,582 | 8,375 | 10,061 |
| Spirits | 30,993 | 31,261 | 31,699 | 30,002 | 33,859 |
| Sugar (raw) | 63,064 | 56,237 | 93,763 | 42,051 | 40,969 |
| Tea | 36,676 | 40,936 | 32,688 | 31,258 | 33,548 |
| Timber | 20,896 | 17,293 | 18,594 | 13,265 | 27,895 |
| Tobacco, cigars, etc. | 17,369 | 18,303 | 18,898 | 18,013 | 22,780 |
| Vegetables (green) and onions | 37,188 | 34,878 | 23,109 | 37,966 | 31,011 |
| Wearing apparel | 81,751 | 85,453 | 73,986 | 73,768 | 104,912 |
| Wines | 3,661 | 3,967 | 2,963 | 4,178 | 3,921 |
| Woolpacks | 12,116 | 7,188 | 7,875 | 8,641 | 12,414 |

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The chief export to Victoria is wool, forwarded to Melbourne for shipment to London and other European ports, the value during 1870 and subsequent periods being as follows :—

| Year. | £ | Year. | £ | Year. | £ |
|---|---|---|---|---|---|
| 1870..... | 1,057,457 | 1891..... | 2,779,963 | 1896..... | 1,936,025 |
| 1875..... | 2,253,184 | 1892..... | 2,518,459 | 1897..... | 1,432,004 |
| 1880..... | 3,224,289 | 1893..... | 2,210,198 | 1898..... | 1,399,442 |
| 1885..... | 1,868,019 | 1894..... | 2,030,645 | 1899..... | 1,864,544 |
| 1890..... | 2,521,898 | 1895..... | 1,958,643 | 1900..... | 1,652,746 |

The decrease shown since 1880 is chiefly owing to the decline in the market value of the staple, though it is also partly due to the extension of the railways, which has diverted much of the traffic from the old routes.

Live stock of all kinds form a large portion of the exports to Victoria, though the imports, especially of sheep, have also been valuable. Victoria has already reached the point where the demand for meat exceeds the cast of stock, and is, therefore, dependent upon the other states, especially New South Wales, for the supply of the deficiency, the amount of which is little short of one-fourth of the whole consumption. The sheep exported are almost entirely New South Wales produce; the cattle, however, are generally bred in Queensland, and fattened for market in New South Wales.

Coal is next in importance as an export of this state to Victoria, the value during 1900 being £315,858, which was far larger than the value of the trade in this staple with any other country. The only other exports usually worthy of note are skins, which are sent to Melbourne for shipment; but in 1900 there was also an export of gold coin to the value of £207,415. The following table shows the export trade during the last five years :—

| Description of Goods. | 1896. | 1897. | 1898. | 1899. | 1900. |
|---|---|---|---|---|---|
| | £ | £ | £ | £ | £ |
| Butter | 1,020 | 10,384 | 58,425 | 1,017 | 3,843 |
| Coal | 250,622 | 241,971 | 253,097 | 239,568 | 315,858 |
| Coin—gold | 1,430 | 8,282 | 7,659 | 113,242 | 207,415 |
| Drapery | 48,740 | 30,428 | 53,109 | 58,953 | 74,107 |
| Fancy goods and toys | 2,020 | 6,474 | 8,678 | 9,197 | 11,311 |
| Fish (preserved) | 4,275 | 2,793 | 13,133 | 10,671 | 7,501 |
| Fruit (fresh) | 46,548 | 34,094 | 71,860 | 49,120 | 39,965 |
| Hardware and ironmongery | 3,519 | 3,448 | 9,582 | 10,395 | 11,406 |
| Hops | 3,070 | 3,298 | 8,343 | 6,351 | 2,192 |
| Leather | 9,783 | 5,598 | 13,580 | 18,257 | 20,554 |
| Live stock | 363,579 | 424,256 | 577,451 | 555,797 | 726,821 |
| Machinery | 31,745 | 32,616 | 28,915 | 45,527 | 37,469 |
| Manures | 8,086 | 10,911 | 9,723 | 4,609 | 4,092 |
| Periodicals, books, paper, etc. | 9,974 | 10,608 | 19,945 | 33,267 | 40,200 |
| Skins | 104,798 | 120,656 | 115,228 | 149,686 | 141,666 |
| Tallow | 27,827 | 23,145 | 46,506 | 10,875 | 15,929 |
| Tea | 13,519 | 20,456 | 17,571 | 5,895 | 5,690 |
| Timber | 7,354 | 6,139 | 8,732 | 15,597 | 16,521 |
| Wheat and other grain | 85,405 | 226,914 | 162,292 | 31,606 | 127,605 |
| Wines | 3,145 | 2,454 | 3,852 | 3,634 | 2,251 |
| Wool | 1,936,025 | 1,432,004 | 1,399,442 | 1,864,544 | 1,652,746 |

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About two-thirds of the trade with Victoria is transacted borderwise. The value of the imports overland diminished greatly between 1885 and 1895, and although the last three years show a great increase in the values, this has been chiefly due to heavy imports of specie. The overland export trade to Victoria is now much less than formerly, as a glance at the following table will show:—

| Year. | Imports. | Exports. | Total. |
|---|---|---|---|
| | £ | £ | £ |
| 1870 | 448,306 | 1,811,848 | 2,260,156 |
| 1875 | 945,049 | 3,546,674 | 4,491,723 |
| 1880 | 963,620 | 3,824,310 | 4,787,930 |
| 1885 | 1,555,139 | 2,450,444 | 4,005,583 |
| 1890 | 986,527 | 4,237,004 | 5,223,531 |
| 1891 | 1,088,012 | 4,184,219 | 5,272,231 |
| 1892 | 907,283 | 2,960,171 | 3,867,454 |
| 1893 | 912,956 | 2,486,282 | 3,399,238 |
| 1894 | 598,736 | 2,148,962 | 2,747,698 |
| 1895 | 570,440 | 2,104,591 | 2,675,031 |
| 1896 | 1,105,435 | 2,190,385 | 3,295,820 |
| 1897 | 1,923,763 | 2,094,907 | 4,018,670 |
| 1898 | 3,770,369 | 1,920,783 | 5,691,152 |
| 1899 | 1,404,336 | 2,417,062 | 3,821,398 |
| 1900 | 2,334,600 | 2,688,060 | 5,022,660 |

## QUEENSLAND.

Amongst the states, Queensland takes second rank in the value of its trade with New South Wales; indeed, during the four years 1893–96 it displaced Victoria from the first position. The estimated values of the imports and exports since 1870 are given hereunder. It is possible that they are somewhat understated, as there is a good deal of trade in stock which does not come under the cognisance of the Customs officers:—

| Year. | Imports. | Exports. | Total Trade. |
|---|---|---|---|
| | £ | £ | £ |
| 1870 | 1,767,974 | 680,301 | 2,448,275 |
| 1875 | 2,521,312 | 1,238,226 | 3,759,538 |
| 1880 | 2,224,421 | 1,362,262 | 3,586,683 |
| 1885 | 2,913,588 | 2,174,266 | 5,087,854 |
| 1890 | 5,482,452 | 1,670,465 | 7,152,917 |
| 1891 | 4,303,520 | 1,063,780 | 5,367,300 |
| 1892 | 4,122,822 | 1,105,173 | 5,227,995 |
| 1893 | 4,746,152 | 1,599,898 | 6,346,050 |
| 1894 | 4,506,490 | 970,926 | 5,477,416 |
| 1895 | 4,011,776 | 1,416,257 | 5,428,033 |
| 1896 | 4,679,456 | 1,227,754 | 5,907,210 |
| 1897 | 4,467,867 | 1,342,322 | 5,810,189 |
| 1898 | 4,663,597 | 1,691,111 | 6,354,708 |
| 1899 | 5,759,251 | 1,796,183 | 7,555,434 |
| 1900 | 4,631,384 | 1,918,903 | 6,550,287 |

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The imports from Queensland chiefly consist of gold, live stock, sugar, wool, tallow, and hides. Large quantities of gold are sent from Queensland to be minted at Sydney, as there is no Branch Mint in the northern state. The value of wool imported during 1900 was £586,832—entirely for re-export. Stock was imported to the value of £502,452, of which £255,347 represented cattle. The importation of cattle from Queensland mainly depends on the suitability of the season for travelling stock. As shown in the subjoined table, the imports for 1900 of wool and live stock are the lowest recorded for the five years, the falling off being due to the drought experienced by the northern state :—

| Description of Goods. | 1896. | 1897. | 1898. | 1899. | 1900. |
|---|---|---|---|---|---|
| | £ | £ | £ | £ | £ |
| Animals (live) ..... | 798,823 | 707,243 | 795,051 | 736,775 | 502,452 |
| Boots and shoes ..... | 7,370 | 3,962 | 5,233 | 2,415 | 1,921 |
| Drapery, apparel, etc. ... | 17,630 | 13,988 | 12,989 | 9,507 | 37,319 |
| Fruit (fresh) ..... | 52,926 | 59,234 | 54,865 | 49,488 | 64,752 |
| Gold (bars and dust)..... | 1,758,811 | 1,955,025 | 1,603,858 | 1,826,808 | 2,139,814 |
| Horns .. ..... | 4,477 | 5,028 | 6,545 | 10,736 | 8,312 |
| Maize ..... | 6,331 | 13,014 | 739 | 143 | 40 |
| Oysters ..... | 3,853 | 1,851 | 537 | 1,183 | 1,129 |
| Skins ..... | 276,642 | 265,787 | 284,997 | 566,506 | 390,457 |
| Sugar (raw) ..... | 334,237 | 267,951 | 533,404 | 613,522 | 474,891 |
| Tallow ..... | 158,396 | 92,138 | 143,890 | 204,540 | 70,284 |
| Wool ..... | 1,001,001 | 807,537 | 964,884 | 1,355,126 | 586,832 |
| Tin (ingots and ore)..... | 29,863 | 17,632 | 16,579 | 35,653 | 33,455 |

Most of the goods imported from Queensland are for re-export, and of the total imported during 1900 goods to the value of £3,290,000, or more than 71 per cent., were not retained in the state for home consumption. New South Wales is the chief external market for Queensland sugars and live stock, and there is a growing trade in fruit and other sub-tropical products.

The exports have varied greatly in value from year to year from causes similar to those affecting the imports; they comprise a large number of items—mainly, however the produce of foreign countries.

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The values of the chief articles exported from New South Wales to Queensland during the last five years were as follow :—

| Description of Goods. | 1896. | 1897. | 1898. | 1899. | 1900. |
|---|---|---|---|---|---|
| | £ | £ | £ | £ | £ |
| Animals (live) | 93,237 | 153,318 | 107,386 | 113,546 | 98,778 |
| Apparel (wearing) | 12,003 | 9,637 | 11,732 | 16,530 | 13,210 |
| Bags and sacks | 15,323 | 18,140 | 28,004 | 32,478 | 26,407 |
| Boots and shoes | 15,526 | 6,307 | 7,605 | 7,457 | 6,646 |
| Chemical products | 4,638 | 4,759 | 11,212 | 20,174 | 20,669 |
| Coal | 9,745 | 11,022 | 9,565 | 15,546 | 15,663 |
| Coin (gold) | 85,000 | 5,000 | 260,000 | 171,800 | 333,000 |
| Drapery | 71,084 | 63,167 | 103,497 | 153,206 | 167,709 |
| Drugs and apothecaries' ware | 7,900 | 11,774 | 18,331 | 25,005 | 25,860 |
| Fancy goods | 3,513 | 9,963 | 16,336 | 14,068 | 13,520 |
| Flour | 177,581 | 282,717 | 161,928 | 76,868 | 86,886 |
| Fruit (fresh) | 52,464 | 48,429 | 36,183 | 36,983 | 34,589 |
| Furniture and upholstery | 5,278 | 6,372 | 8,376 | 15,140 | 10,870 |
| Grindery | 6,753 | 9,670 | 14,965 | 17,356 | 11,820 |
| Hardware | 18,056 | 26,934 | 81,623 | 89,608 | 72,732 |
| Iron and steel | 113,117 | 160,971 | 133,949 | 155,056 | 138,627 |
| Jewellery and precious stones | 1,003 | 6,245 | 15,650 | 16,851 | 22,560 |
| Leather | 7,868 | 8,510 | 9,061 | 10,400 | 7,160 |
| Machinery | 36,861 | 50,176 | 70,686 | 104,565 | 116,484 |
| Paper, books, stationery, etc. | 28,274 | 22,059 | 25,415 | 38,504 | 38,461 |
| Potatoes | 42,434 | 17,578 | 34,640 | 25,980 | 24,154 |
| Tea | 32,647 | 42,049 | 45,094 | 55,116 | 51,907 |
| Tin (ingots, ore, and plates) | 9,027 | 6,506 | 6,166 | 12,163 | 10,687 |
| Tobacco, etc. | 19,620 | 22,888 | 31,095 | 34,853 | 28,465 |
| Wheat | 36,595 | 25,984 | 23,478 | 11,695 | 87,326 |
| Wool | 15,670 | 10,589 | 3,139 | 8,830 | 1,145 |
| Woolpacks | 10,733 | 10,694 | 10,051 | 13,915 | 10,521 |

The export trade with Queensland has not advanced to any great extent; in fact, the figures for the year 1900, although showing an increase on those for the previous year, are still below those of 1885. The amount of border trade between the two states is shown in the following table. The fluctuation in the number, and consequently in the value, of stock imported and exported, is chiefly responsible for the variation in the amounts :—

| Year. | Imports. | Exports. | Year. | Imports. | Exports. |
|---|---|---|---|---|---|
| | £ | £ | | £ | £ |
| 1870 | 527,097 | 40,540 | 1894 | 556,585 | 166,486 |
| 1875 | 249,247 | 223,667 | 1895 | 592,126 | 507,244 |
| 1880 | 231,161 | 245,651 | 1896 | 1,020,830 | 216,961 |
| 1885 | 669,739 | 337,023 | 1897 | 999,410 | 160,641 |
| 1890 | 2,158,822 | 317,717 | 1898 | 1,004,707 | 349,578 |
| 1891 | 1,103,682 | 231,613 | 1899 | 1,012,236 | 281,799 |
| 1892 | 879,716 | 243,971 | 1900 | 792,818 | 419,133 |
| 1893 | 904,186 | 546,757 | | | |

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## South Australia.

The trade with South Australia was at one time more variable than that with any other state, depending, as it then did, on the state of the Murray and Darling Rivers. After 1886, however, the element of uncertainty was neutralised by the expansion of trade which was found in the requirements of the population of Broken Hill silver-fields. The additional trade has proved of enormous advantage to South Australia, as the Barrier district of New South Wales, with its population of about 28,000 persons, may be looked upon as commercially a province of the neighbouring state. The total imports and exports for stated periods, beginning with the year 1870, were :—

| Year. | Imports. | Exports. | Year. | Imports. | Exports. |
|---|---|---|---|---|---|
| | £ | £ | | £ | £ |
| 1870 | 366,480 | 350,247 | 1894 | 854,190 | 3,108,600 |
| 1875 | 987,933 | 654,237 | 1895 | 911,170 | 2,314,682 |
| 1880 | 690,407 | 830,256 | 1896 | 1,436,927 | 2,720,374 |
| 1885 | 890,335 | 810,953 | 1897 | 1,185,099 | 2,587,296 |
| 1890 | 2,036,492 | 3,700,124 | 1898 | 1,112,421 | 2,216,994 |
| 1891 | 2,746,788 | 4,527,989 | 1899 | 1,306,444 | 2,665,022 |
| 1892 | 1,461,815 | 2,988,448 | 1900 | 1,439,528 | 3,259,530 |
| 1893 | 1,007,280 | 3,869,491 | | | |

The list of imports is a long one, and, like that of Victoria, includes a large number of articles of foreign manufacture :—

| Description of Goods. | 1896. | 1897. | 1898. | 1899. | 1900. |
|---|---|---|---|---|---|
| | £ | £ | £ | £ | £ |
| Bags and sacks | 7,035 | 9,935 | 9,360 | 3,175 | 6,398 |
| Beer | 12,609 | 14,129 | 11,342 | 12,830 | 12,970 |
| Bicycles, &c. | 5,248 | 9,243 | 10,731 | 7,674 | 12,030 |
| Boots and shoes | 7,465 | 10,274 | 12,890 | 17,957 | 24,035 |
| Butter | 25,461 | 30,114 | 29,031 | 34,773 | 40,802 |
| Candles | 10,764 | 8,954 | 10,976 | 13,310 | 15,282 |
| Coke and coal | 135,681 | 102,497 | 12,262 | 1,680 | 2,205 |
| Copper (ore and ingots) | 1,952 | 17,585 | 5,465 | 33,991 | 35,769 |
| Drapery, wearing apparel, etc. | 80,488 | 82,367 | 81,665 | 98,248 | 120,218 |
| Drugs and apothecaries' ware | 5,601 | 6,111 | 6,515 | 7,461 | 7,702 |
| Dynamite, powder, arms, etc. | 28,145 | 30,324 | 31,830 | 36,114 | 48,604 |
| Eggs | 12,964 | 11,641 | 12,966 | 17,021 | 20,184 |
| Fish (preserved) | 5,371 | 5,605 | 6,026 | 6,794 | 7,556 |
| Flour | 189,136 | 50,280 | 40,939 | 91,602 | 32,326 |
| Fruit (fresh) | 19,624 | 19,178 | 21,205 | 22,867 | 27,569 |
| ,, (dried) | 4,779 | 5,425 | 6,259 | 7,359 | 9,110 |
| Furniture and upholstery | 3,363 | 4,966 | 6,475 | 9,074 | 11,171 |
| Gold (coin, bars, and dust) | 40,672 | 16,840 | 63,454 | 19,613 | 46,750 |
| Grain and pulse— | | | | | |
| Wheat | 43,236 | 1,914 | 2,304 | 5,532 | 1,767 |
| Other | 21,229 | 16,595 | 14,706 | 25,646 | 21,165 |
| Hardware | 11,268 | 10,842 | 10,032 | 11,545 | 13,935 |

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| Description of Goods. | 1896. | 1897. | 1898. | 1899. | 1900. |
|---|---|---|---|---|---|
| | £ | £ | £ | £ | £ |
| Hay and chaff | 128,419 | 45,419 | 37,217 | 51,354 | 37,937 |
| Iron and steel | 39,674 | 49,924 | 45,801 | 62,769 | 80,058 |
| Jams and jellies | 6,688 | 4,762 | 5,010 | 6,457 | 5,929 |
| Jewellery and precious stones | 3,888 | 5,466 | 9,228 | 11,777 | 8,837 |
| Lead (pig) | 71,782 | 57,760 | 26,820 | 24,998 | 88,820 |
| Live stock | 20,840 | 17,661 | 12,302 | 18,437 | 43,183 |
| Machinery | 53,260 | 80,952 | 79,850 | 111,682 | 105,897 |
| Malt | 5,450 | 7,217 | 6,096 | 6,146 | 7,615 |
| Milk (condensed & preserved) | 8,398 | 8,535 | 8,987 | 10,373 | 11,195 |
| Oils (in bulk) | 10,706 | 12,665 | 12,232 | 14,002 | 15,986 |
| Paper, books, stationery, etc. | 9,357 | 8,975 | 5,501 | 10,117 | 11,769 |
| Potatoes | 12,973 | 11,974 | 18,739 | 12,422 | 12,287 |
| Salt | 17,933 | 20,643 | 21,541 | 23,404 | 23,455 |
| Skins and hides | 15,637 | 11,454 | 7,026 | 7,638 | 6,210 |
| Spirits | 16,746 | 16,484 | 14,523 | 18,186 | 17,121 |
| Sugar (raw) | 29,373 | 30,934 | 23,529 | 27,446 | 29,702 |
| Tea | 11,262 | 11,104 | 12,413 | 12,552 | 12,965 |
| Timber | 92,531 | 120,281 | 106,038 | 130,649 | 127,157 |
| Tobacco, cigars, etc. | 10,708 | 10,047 | 10,508 | 11,418 | 12,243 |
| Toys and fancy goods | 5,361 | 6,170 | 5,574 | 7,325 | 7,253 |
| Vegetables (not including potatoes) | 11,693 | 14,189 | 13,610 | 15,785 | 12,798 |
| Wines | 2,711 | 3,027 | 3,321 | 2,947 | 2,705 |

The exports to South Australia are chiefly silver bullion, lead, and ore, and wool, coal, and live stock. The values of the principal items for the last five years are as follow :—

| Description of Goods. | 1896. | 1897. | 1898. | 1899. | 1900. |
|---|---|---|---|---|---|
| | £ | £ | £ | £ | £ |
| Boots and shoes | 13,962 | 12,997 | 6,920 | 9,126 | 16,472 |
| Coal | 106,445 | 125,199 | 147,754 | 157,789 | 208,823 |
| Coin (gold) | 64,100 | 20,000 | .. | 10,000 | 10,000 |
| Coke | 1,088 | 14,396 | 15,345 | 16,518 | 29,965 |
| Live stock | 54,568 | 101,418 | 117,819 | 87,532 | 41,837 |
| Machinery | 14,274 | 15,091 | 19,752 | 14,473 | 26,711 |
| Paper, books, & stationery | 4,437 | 4,253 | 4,160 | 5,615 | 10,066 |
| Silver (ingots, lead, and ore) | 1,744,174 | 1,650,198 | 1,432,476 | 1,868,539 | 2,145,802 |
| Skins | 36,993 | 29,533 | 31,267 | 44,179 | 52,171 |
| Sugar (raw) | 979 | 2,338 | 1,824 | 2,747 | 649 |
| Wire netting (galvanised) | 9,306 | 13,266 | 12,823 | 6,418 | 11,729 |
| Wool | 511,233 | 312,492 | 236,079 | 438,464 | 321,731 |

The records of the overland commerce were not kept with exactitude before the year 1877, but the time which has since elapsed is amply sufficient to illustrate the importance of the trade. In the year mentioned, the imports and exports amounted to £464,252, while in 1891 they reached the large sum of £6,341,926. This trade, however, was not maintained, the values in succeeding years fluctuating between 2¾

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millions and 4¼ millions, as will be seen from the next table. The expansion from 1886 to 1891 was due, as already pointed out, to the requirements of the newly-found silver-fields near the South Australian border, and the main reason for the decline in 1892 was to be found in the diminished silver production, and the consequently lessened amount of imports into the Barrier district. The revival in 1893 was owing to increased production at Broken Hill consequent on the settlement of the industrial disputes which had affected the silver industry in the previous year; but the great fall in the market value of the metal in 1894 brought the trade down to its 1892 level; and stoppage of work in one of the principal mines, in consequence of a fire, was responsible for a further fall in 1895. Increased activity at the mines, together with a slight rise in the price of the metal, caused the increase in 1896; while the further fall in silver in 1897 and 1898, followed by a slight rise in 1899, was sufficient to account for the variation in values over the later years.

Most of the articles given in the foregoing list are sent to South Australia for the purpose of re-export, and are not, in the true sense, exports to that state. It is not possible, however, to trace these goods to their ultimate destination, and, in accordance with the system adopted in most Customs statistics, the country which the goods first enter is credited as dealing directly with this state. This remark applies with equal force to Victoria. The imports from South Australia *via* Silverton, Willyama or Broken Hill, and Wentworth, Bourke, Euston, and Wilcannia amounted to £2,127,510 during 1891, but after that year they steadily declined until in 1895 they were but £620,802 in value. In 1896, however, they again rose, and in 1897, at £1,008,119, were the highest recorded since 1892; but this value was not maintained during 1898, the figures for that year showing a considerable decrease, the amount being £903,125. The year 1900, however, witnessed an increase to £1,176,746, the highest return for the last nine years. It is anticipated that the extensions of the railway system of this state to the banks of the Darling at Bourke and Wilcannia will eventually divert not a little of the traffic which has hitherto gone to Adelaide. The certainty of speedy delivery, and the less amount of handling to which goods will be subjected, will probably more than compensate for the additional expense in carriage. The overland trade since 1877 is shown below:—

| Year. | Imports. | Exports. | Year. | Imports. | Exports. |
|---|---|---|---|---|---|
| | £ | £ | | £ | £ |
| 1877 | 253,838 | 210,414 | 1892 | 1,141,418 | 2,830,069 |
| 1880 | 243,374 | 698,581 | 1893 | 880,869 | 3,673,897 |
| 1885 | 386,252 | 617,606 | 1894 | 633,333 | 2,906,641 |
| 1886 | 442,034 | 1,396,403 | 1895 | 620,802 | 2,136,294 |
| 1887 | 713,238 | 1,513,241 | 1896 | 999,406 | 2,362,392 |
| 1888 | 1,154,924 | 1,359,802 | 1897 | 1,008,119 | 2,243,071 |
| 1889 | 1,092,095 | 2,731,656 | 1898 | 903,125 | 1,851,423 |
| 1890 | 1,561,992 | 3,471,655 | 1899 | 1,047,748 | 2,262,634 |
| 1891 | 2,127,510 | 4,214,416 | 1900 | 1,176,746 | 2,741,946 |

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## TASMANIA.

The commercial intercourse of New South Wales with Tasmania at one time promised to develop into importance, but it has fluctuated considerably. The returns for the last five years, however, evince a decided upward tendency, the figures for exports being the highest recorded over the period dealt with in the table. It will be seen that the imports largely exceed the exports, New South Wales affording a good market for Tasmanian potatoes and fruits, while a large quantity of tin comes for re-export :—

| Year. | Imports. | Exports. | Year. | Imports. | Exports. |
|---|---|---|---|---|---|
| | £ | £ | | £ | £ |
| 1870 | 90,827 | 26,555 | 1894 | 342,522 | 180,583 |
| 1875 | 167,870 | 44,274 | 1895 | 303,270 | 152,451 |
| 1880 | 383,106 | 81,484 | 1896 | 597,706 | 167,399 |
| 1885 | 582,177 | 108,758 | 1897 | 414,209 | 186,934 |
| 1890 | 432,615 | 215,674 | 1898 | 589,092 | 324,416 |
| 1891 | 377,174 | 252,356 | 1899 | 703,333 | 333,690 |
| 1892 | 453,597 | 226,864 | 1900 | 548,748 | 376,979 |
| 1893 | 356,622 | 209,546 | | | |

The values of the chief articles of import during the last five years will be seen from the following table, and in addition to those shown for the year 1898 there was an import of gold coin amounting to £120,300 :—

| Description of Goods. | 1896. | 1897. | 1898. | 1899. | 1900. |
|---|---|---|---|---|---|
| | £ | £ | £ | £ | £ |
| Bark | 17,748 | 8,585 | 11,060 | 9,108 | 10,810 |
| Fruit (green) | 115,084 | 86,300 | 76,143 | 91,758 | 111,093 |
| Hops | 13,542 | 9,412 | 9,911 | 10,513 | 11,100 |
| Jams and jellies | 4,972 | 5,399 | 4,613 | 7,854 | 7,677 |
| Live stock (sheep) | 14,647 | 21,036 | 21,002 | 30,213 | 16,479 |
| Potatoes | 149,346 | 122,950 | 66,990 | 130,673 | 125,624 |
| Silver ore | 132,273 | 4,214 | 7,074 | 10,596 | 14,134 |
| Straw | 9,895 | 7,193 | 6,055 | 8,201 | 7,076 |
| Timber | 3,144 | 4,562 | 8,065 | 3,299 | 8,950 |
| Tin (ingots) | 40,903 | 40,799 | 31,990 | 79,008 | 38,597 |

The export trade embraces a large number of articles, the most important being coal, £36,254; coke, £18,167; cordage and rope, £2,509; drapery and apparel, £30,223; machinery, £9,530; raw sugar, £70,450; live stock, £18,614; paper, books, &c., 11,745; together £197,492, out of total exports to the amount of £376,979. Most of the other articles are of foreign manufacture, chiefly the produce of Great Britain.

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## New Zealand.

New Zealand gave promise at a former period of being one of the leading customers of this state; but from various causes both the imports and the exports fell away very considerably. The export trade in commodities shows but little sign of recovery, the large increase in the values in 1893 and 1894 being due to shipments of gold coin; while the value of the imports fluctuates with the character of the season in New South Wales, a bad year being always attended with large importations of New Zealand oats and other produce. Large importations of gold bars and dust account for the increased figures for imports in 1899 and 1900; the quantity entered in the former year being valued at £560,214, and in the latter at £711,809. The export figures for 1900 include specie to the value of £223,500. The following table shows the imports and exports for a series of years :—

| Year. | Imports. | Exports. | Year. | Imports. | Exports. |
|---|---|---|---|---|---|
| | £ | £ | | £ | £ |
| 1870 | 298,951 | 197,025 | 1894 | 484,450 | 770,392 |
| 1875 | 135,480 | 362,764 | 1895 | 563,528 | 486,173 |
| 1880 | 460,735 | 525,174 | 1896 | 704,699 | 429,583 |
| 1885 | 899,623 | 369,055 | 1897 | 629,423 | 386,589 |
| 1890 | 932,073 | 294,113 | 1898 | 746,026 | 512,770 |
| 1891 | 871,422 | 280,039 | 1899 | 1,244,965 | 661,993 |
| 1892 | 717,309 | 286,059 | 1900 | 1,348,605 | 826,662 |
| 1893 | 756,433 | 533,262 | | | |

The imports consist chiefly of gold bullion, timber, and agricultural and dairy produce. The value of the principal articles is given herewith:—

| Description of Goods. | 1896. | 1897. | 1898. | 1899. | 1900. |
|---|---|---|---|---|---|
| | £ | £ | £ | £ | £ |
| Butter | 25,044 | 51,657 | 19,429 | 31,371 | 7,644 |
| Cheese | 11,375 | 12,977 | 35,516 | 45,263 | 34,610 |
| Drapery, apparel, etc. | 10,875 | 13,015 | 10,052 | 11,772 | 12,254 |
| Flour | 50,345 | 80,897 | 1,701 | 11,443 | 580 |
| Fungus | 4,067 | 1,008 | 1,098 | 206 | 22 |
| Gold bars and dust | 210,130 | 69,230 | 198,937 | 560,214 | 711,809 |
| Grain and pulse— | | | | | |
| Wheat | 39,610 | 6,273 | 16 | 30,609 | 9,784 |
| Oats | 93,204 | 76,214 | 52,338 | 109,262 | 108,163 |
| Other | 17,406 | 31,450 | 13,322 | 49,924 | 45,841 |
| Live stock | 4,179 | 1,931 | 9,493 | 4,619 | 7,706 |
| Malt and hops | 32,950 | 35,861 | 27,019 | 54,735 | 55,799 |
| Meat (preserved) | 1,853 | 2,015 | 3,313 | 4,744 | 2,546 |
| (Bacon, etc.) | 10,211 | 9,863 | 3,184 | 9,439 | 11,764 |
| Oatmeal | 4,957 | 7,076 | 8,814 | 5,836 | 9,187 |
| Onions | 9,421 | 10,540 | 12,412 | 8,832 | 4,343 |
| Oysters | 1,722 | 610 | 4,071 | 87 | 59 |
| Potatoes | 9,513 | 19,836 | 109,376 | 46,390 | 31,244 |
| Timber | 61,016 | 79,270 | 84,682 | 86,267 | 111,456 |

In 1883 direct steam communication was established between New Zealand and Great Britain; this, together with the large falling off in

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the export of specie, will account for the contraction of the outward trade which took place between that year and 1892. The value of the principal articles exported to New Zealand during each of the past five years was as follows :—

| Description of Goods. | 1896. | 1897. | 1898. | 1899. | 1900. |
|---|---|---|---|---|---|
| | £ | £ | £ | £ | £ |
| Coal | 41,368 | 56,754 | 53,872 | 55,954 | 71,308 |
| Coin (gold) | 50,000 | 50 | 13,000 | 74,000 | 199,000 |
| Drapery and apparel | 15,564 | 12,395 | 18,031 | 29,412 | 36,897 |
| Fruit (fresh) | 18,462 | 18,174 | 19,067 | 17,657 | 17,845 |
| Machinery | 14,790 | 12,799 | 39,014 | 33,487 | 30,991 |
| Manures | 23,690 | 22,529 | 20,018 | 23,555 | 28,113 |
| Paper, books, stationery, etc. | 9,889 | 9,778 | 11,489 | 14,872 | 17,274 |
| Sugar (raw) | 15,441 | 6,685 | 25,749 | 9,974 | 14,617 |
| Tea | 14,550 | 9,457 | 14,243 | 23,287 | 13,668 |
| Timber | 10,651 | 22,847 | 34,161 | 37,074 | 39,265 |

## Other British Possessions.

Besides the Australasian provinces and Great Britain, the other British possessions that have the largest trade with New South Wales are Hong Kong, India, and Fiji, while during the last few years the trade with Canada has attained considerable dimensions, and the trade with Ceylon, mainly imports, is also steadily increasing. The values of the imports and exports of each of the three first-named possessions during 1875, and at subsequent periods, were as follow :—

| Year. | Hong Kong. | | India. | | Fiji. | |
|---|---|---|---|---|---|---|
| | Imports. | Exports. | Imports. | Exports. | Imports. | Exports. |
| | £ | £ | £ | £ | £ | £ |
| 1875 | 117,881 | 172,676 | 12,295 | 10,958 | 32,345 | 63,033 |
| 1880 | 228,526 | 137,577 | 653 | 19,611 | 54,135 | 120,518 |
| 1885 | 340,187 | 246,032 | 117,208 | 130,292 | 192,540 | 128,643 |
| 1890 | 271,730 | 255,050 | 195,368 | 253,280 | 99,853 | 98,951 |
| 1891 | 273,383 | 282,309 | 260,307 | 127,388 | 89,859 | 103,773 |
| 1892 | 239,606 | 254,615 | 180,499 | 50,923 | 70,121 | 100,089 |
| 1893 | 191,477 | 182,502 | 184,261 | 37,173 | 56,012 | 131,403 |
| 1894 | 182,496 | 162,167 | 201,805 | 36,991 | 45,039 | 117,840 |
| 1895 | 181,529 | 141,976 | 212,337 | 54,407 | 27,890 | 86,420 |
| 1896 | 75,860 | 185,601 | 203,176 | 126,203 | 36,058 | 107,724 |
| 1897 | 76,468 | 175,435 | 259,723 | 169,857 | 53,836 | 124,093 |
| 1898 | 81,574 | 202,187 | 309,720 | 67,205 | 106,436 | 138,076 |
| 1899 | 73,944 | 285,931 | 366,472 | 232,971 | 73,663 | 165,387 |
| 1900 | 67,928 | 218,986 | 388,546 | 115,894 | 60,831 | 183,579 |

Hong Kong commercially is a port of China, and no inconsiderable portion of the trade of that Empire with New South Wales is transacted *via* that port. The China trade is of a variable nature, the total of the direct trade for 1900 being £258,460, as against £283,093 in 1891; while the trade *via* Hong Kong in 1900 was only £286,914 as against

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£555,692 ten years previously. The imports from Hong Kong during 1900 consisted principally of opium valued at £20,466; tea, £1,810; rice, £10,603; tobacco, etc., £3,384; China oil, £2,625; sugar (raw), £4,032; spirits, £2,455; and preserves, £6,102. The export trade for the year chiefly comprised the following items:—Coin to the amount of £165,253; coal, £9,728; bêche-de-mer, £1,315; fungus, £905; lead, £20,600; old metal, £2,192; and preserved meat, £6,083.

The Indian trade has grown up almost entirely since 1880, in which year it amounted to only £20,264, increasing to £422,137 in 1884. Since that period the trade has greatly fluctuated, owing largely to the variable export of coin. In 1890, it reached a total of £448,648, but during the next three years it steadily declined, although in 1894 it showed an upward movement, the improvement being maintained each year up to 1897 when the value reached £429,580. During 1898, however, the trade again declined, the value for that year being £376,925. In 1899 the value rose to £599,443, the highest yet recorded; but in 1900 there was a fall to £504,440. Castor oil is an article which is largely imported from India, the value of the oil received during 1900 being £14,033. There is also a large trade in woolpacks, the importations amounting to £71,649; and in bags and sacks, of which goods to the amount of £145,414 were received. The only other articles imported in any quantity during the year were mats and matting, £5,315; rice, £855; tea, £90,312; coffee, £2,663; linseed, £838; linseed oil, £11,542; canvas, £22,330; dates, £2,514; and fibre, £2,796. The outward trade with India in most years is confined almost entirely to coin, coal, and gold. In 1900 the export of gold amounted to £15,015, and the other principal articles exported were coal, £11,659; horses, £18,521; wool, £9,700; gold coin, £20,000; and wheat, £37,333; the items mentioned comprising a value of £112,228, out of a total export trade of £115,894. The great fluctuation noticeable since 1890 is caused by the variable amount of gold coin and bullion exported. In that year the value of gold exported was £203,299, while in 1891 it dropped to £87,361. In 1894 there was no export of gold, and in the year following it amounted to only £19,456. The value in 1896 was £67,127, increasing to £120,140 in 1897, and again falling in 1898 to £19,869. In 1899 the export was valued at £48,207, but in 1900 it fell to £15,015.

The Fiji Island trade is valuable, but, like the trade with other colonial possessions, is rather unsteady. In 1875 the imports from these Islands were valued at £32,345, and the exports at £63,033, being a total of £95,378; while in 1900 the imports were £60,831 in value, and the exports had risen to £183,579, the total trade thus being £244,410. The imports were highest in 1885, when they were valued at £192,540. The exports reached their highest total in 1883, when they amounted to £248,380; from that time there was a steady decline until 1887, when the lowest figure was reached. A gradual recovery then took place, and the figures for 1893 were the highest recorded for a number of years, but during the next two years they again declined, the value for

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1895 falling to £86,420. From that year, however, there has been a strong upward tendency, both as regards imports and exports, and the total of the trade, £244,410 for the year 1900, may be taken as satisfactory evidence of a successful recovery. The chief article of import is copra, of which the value imported for 1900 was £15,731. The only others worthy of note are fruit and raw sugar, the values for 1900 being £17,019 and £5,304 respectively. The exports comprise a large variety of articles; the principal items during 1900 were coal, £7,985; coin, £21,050; drapery and apparel, £23,098; flour, £4,318; hardware and ironmongery, £6,642; and meat, £3,775.

The rise of a trade with the Canadian Dominion and Ceylon may be traced in the following table, which gives the imports and exports for 1875 and following periods:—

| Period. | Canadian Dominion. | | Ceylon. | |
|---|---|---|---|---|
| | Imports. | Exports. | Imports. | Exports. |
| | £ | £ | £ | £ |
| 1875 | ..... | ..... | .. ..... | 2,059 |
| 1880 | 17,530 | ..... | ..... | 1,781 |
| 1885 | 62,847 | ..... | 17,701 | 8,531 |
| 1890 | 18,784 | 10 | 43,702 | 4,080 |
| 1891 | 32,864 | 40 | 55,544 | 631 |
| 1892 | 10,655 | 37 | 50,725 | 8,975 |
| 1893 | 33,316 | 8,374 | 70,991 | 2,052 |
| 1894 | 52,740 | 14,523 | 81,146 | 2,822 |
| 1895 | 61,742 | 16,804 | 94,595 | 2,055 |
| 1896 | 83,810 | 11,555 | 113,352 | 6,785 |
| 1897 | 187,291 | 19,340 | 132,940 | 6,123 |
| 1898 | 131,962 | 86,964 | 144,132 | 18,133 |
| 1899 | 92,710 | 111,789 | 200,482 | 88,793 |
| 1900 | 114,321 | 66,403 | 213,195 | 58,402 |

Prior to 1893 there was a fair import trade in lumber with Canada, but the establishment of a direct line of steamers between Sydney and Vancouver in that year had the effect of increasing the number of articles imported, and of laying the foundation of an export trade, which until that time was practically non-existent. So far, however, progress has been slow. It is true that 1897 showed an increase of over £100,000 in the imports, but this was represented wholly by flour, and was due to a deficiency in home production not likely to occur again. The imports of flour in 1900 amounted to £16,715, and of Canadian bicycles to £17,585. The other articles, which represent a much larger percentage of the total than formerly, imported during the year comprised timber, £4,585; machinery, £23,564; fish (frozen, dried, and preserved), £5,269; and drapery and apparel, £23,581.

The export trade was very small until 1898, when it suddenly increased to £86,964, the highest value previously being £19,340 in 1897. The increase was due to the export of sugar to the value of

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£54,780. In 1899 there was a further increase to £111,789, but of this total no less than £77,598 was accounted for by the export of raw sugar. In 1900 the value of exports fell to £66,403. The articles which contributed chiefly to this total were sugar, £10,889; tin, £19,991; skins and hides, £17,331; preserved meat, £4,170; and frozen mutton, £5,502.

Of late years Chinese teas have, to a great extent, been superseded by those grown in Ceylon and India, and it is entirely due to this fact that the import trade with the island has made the steady progress shown in the above table. In 1900 the tea imported from Ceylon was valued at £205,024, out of a total value of imports from the island of £213,195; the other principal imports being coffee, £1,936; fibre, £1,646; and oilmen's stores, £2,831. The chief exports were coal, £360; horses, £432; frozen meat, £2,423; flour, £318; manures, £546; and wheat, £3,542.

## Trade with the United Kingdom and its Possessions.

To what extent the trade of the State follows the British flag may be gathered from the following figures, which show not only the value of the trade of New South Wales with Great Britain and her dependencies during the period since 1870, but also the proportion which that trade bears to the whole. A fairly steady proportionate decline is apparent in the exports since direct trade with Continental Europe was established:—

| Year. | Imports from Great Britain and British Possessions. | Percentage of total imports. | Exports to Great Britain and British Possessions. | Percentage of total exports. |
|---|---|---|---|---|
| | £ | | £ | |
| 1870 | 6,924,998 | 83·59 | 7,687,148 | 95·72 |
| 1875 | 12,563,296 | 93·13 | 13,213,258 | 96·65 |
| 1880 | 13,021,783 | 91·85 | 15,210,314 | 97·00 |
| 1885 | 21,299,715 | 89·74 | 14,794,052 | 88·33 |
| 1886 | 19,153,071 | 89·86 | 14,250,570 | 90·66 |
| 1887 | 17,564,948 | 91·62 | 16,485,109 | 89·00 |
| 1888 | 19,034,772 | 89·66 | 18,508,498 | 88·47 |
| 1889 | 20,198,508 | 88·34 | 20,281,259 | 87·06 |
| 1890 | 20,273,053 | 89·64 | 18,582,372 | 84·29 |
| 1891 | 22,474,355 | 88·54 | 21,066,606 | 81·20 |
| 1892 | 18,662,883 | 89·63 | 17,053,145 | 77·61 |
| 1893 | 16,679,402 | 92·11 | 18,569,809 | 81·02 |
| 1894 | 14,386,013 | 91·04 | 16,506,202 | 80·21 |
| 1895 | 14,352,796 | 89·75 | 17,323,106 | 78·98 |
| 1896 | 17,375,139 | 84·50 | 17,271,037 | 75·06 |
| 1897 | 18,015,922 | 82·85 | 17,505,943 | 73·79 |
| 1898 | 21,075,897 | 86·19 | 17,135,462 | 61·97 |
| 1899 | 21,254,533 | 83·04 | 19,968,418 | 70·20 |
| 1900 | 22,440,956 | 81·42 | 20,567,383 | 73·03 |

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## Foreign Trade.

The total value of the trade of the state with countries other than those under British dominion is appreciably increasing, a considerable stimulus having been given to this branch of commerce by the establishment of direct trade relations with France, Belgium, and Germany. There was a large decline in the imports in 1887; but the lost ground was more than recovered in subsequent years; and the great decline in 1893 and 1894, in the exports as well as the imports, was due to causes which affected the whole trade of the state, though not quite in the same degree as the commerce with foreign countries. In 1895 the trade again showed an upward tendency, and the advance has been well maintained, the exports for 1898 being by far the largest on record, while the imports were well up to the average and second only to the total of 1897. The abnormal increase in the exports was mainly due to the quantity of gold coin exported. The imports for 1899 and 1900 show a considerable advance, the total for 1900 being the highest recorded for the period. The following table shows the imports and exports for the past ten years:—

| Year. | Imports. | Exports. | Year. | Imports. | Exports. |
|---|---|---|---|---|---|
| | £ | £ | | £ | £ |
| 1891 | 2,909,042 | 4,877,414 | 1896 | 3,186,371 | 5,739,312 |
| 1892 | 2,113,643 | 4,919,102 | 1897 | 3,728,428 | 6,245,129 |
| 1893 | 1,427,633 | 4,351,414 | 1898 | 3,377,663 | 10,512,655 |
| 1894 | 1,415,928 | 3,981,471 | 1899 | 4,339,782 | 8,477,048 |
| 1895 | 1,639,619 | 4,611,679 | 1900 | 5,120,115 | 7,597,133 |

## The United States.

At one time the United States was the largest foreign market of this state, the value of the exports thereto far exceeding those sent to any other foreign country; but the direct shipments of wool to the Continent of Europe, which are steadily increasing, have placed it below France and Germany, although the large shipments of gold may seem to indicate otherwise. The import trade, however, is still greater than that transacted direct with the principal Continental countries, although the imports from Germany are rapidly growing, and it is to be remembered that some foreign products are sent to the state by way of Great Britain. Further, a large proportion of the imports from America is represented by breadstuffs, the consumption of which has now been



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overtaken by local cultivation. The fluctuation of the trade, as shown in the following table, is due to the variable exports of gold coin and imports of wheat and flour :—

| Year. | Imports. | Exports. | Year. | Imports. | Exports. |
|---|---|---|---|---|---|
| | £ | £ | | £ | £ |
| 1891 | 1,277,032 | 2,313,671 | 1896 | 1,729,871 | 2,064,964 |
| 1892 | 823,522 | 1,529,980 | 1897 | 1,887,877 | 2,462,319 |
| 1893 | 526,331 | 626,566 | 1898 | 1,602,954 | 5,951,287 |
| 1894 | 542,427 | 374,541 | 1899 | 2,219,319 | 2,392,281 |
| 1895 | 624,268 | 683,606 | 1900 | 2,557,961 | 3,981,242 |

The imports comprise a large number of articles, amongst which the following are the most important :—

| Description of Goods. | 1896. | 1897. | 1898. | 1899. | 1900. |
|---|---|---|---|---|---|
| | £ | £ | £ | £ | £ |
| Agricultural implements | 13,277 | 19,592 | 28,212 | 21,258 | 34,123 |
| Bicycles, &c. | 50,758 | 57,724 | 18,450 | 16,619 | 19,224 |
| Boots and shoes | 41,539 | 45,047 | 71,154 | 121,454 | 185,121 |
| Carriages and carriage materials | 24,131 | 45,412 | 27,647 | 44,467 | 51,441 |
| Coffee (raw) | 4,640 | 9,392 | 12,547 | 16,850 | 9,396 |
| Drapery and apparel | 14,501 | 30,277 | 25,726 | 47,323 | 51,463 |
| Drugs and apothecaries' ware | 20,445 | 24,388 | 17,661 | 25,198 | 26,049 |
| Fish (preserved) | 35,527 | 45,337 | 48,447 | 79,839 | 74,436 |
| Flour | 264,199 | 365,687 | 56,347 | 80,844 | 11,476 |
| Furniture and upholstery | 6,842 | 10,674 | 19,276 | 28,429 | 35,868 |
| Hardware | 33,173 | 40,045 | 36,283 | 49,710 | 49,323 |
| Hops | 9,429 | 7,032 | 19,483 | 9,217 | 5,215 |
| Iron and steel | 11,690 | 24,581 | 47,017 | 134,000 | 147,722 |
| Kerosene | 70,402 | 86,401 | 102,678 | 162,897 | 167,653 |
| Leather | 24,308 | 21,478 | 39,175 | 43,282 | 61,130 |
| Machinery | 71,603 | 128,957 | 170,815 | 178,837 | 256,394 |
| Paper, books, stationery, etc. | 56,103 | 81,563 | 95,631 | 162,517 | 184,030 |
| Preserves | 8,061 | 10,729 | 10,097 | 8,530 | 14,472 |
| Railway plant | 2,100 | 3,594 | 33,682 | 19,372 | 73,752 |
| Resin | 9,512 | 4,314 | 21,312 | 6,065 | 7,083 |
| Sewing machines | 19,778 | 18,756 | 18,435 | 32,554 | 34,071 |
| Silver plate and plated ware | 2,767 | 5,725 | 9,621 | 10,521 | 9,702 |
| Timber—dressed and undressed | 117,772 | 138,300 | 130,695 | 175,324 | 214,930 |
| Tobacco, cigars, etc. | 110,774 | 131,935 | 146,149 | 160,580 | 176,775 |
| Tools | 39,353 | 45,833 | 36,624 | 58,692 | 67,218 |
| Turpentine | 8,207 | 8,094 | 11,975 | 17,516 | 16,896 |
| Watches and clocks | 10,288 | 15,793 | 14,699 | 18,259 | 23,389 |
| Wheat | 445,690 | 165,862 | ..... | ..... | 65 |

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The exports to the United States are chiefly confined to specie and a few articles of raw material, the produce of the state, the principal of which are marsupial skins, wool, and coal. No other goods are exported in considerable quantities. During the last five years the values of the exports of the principal articles were as follow :—

| Description of Goods. | 1896. | 1897. | 1898, | 1899. | 1900. |
|---|---|---|---|---|---|
| | £ | £ | £ | £ | £ |
| Gold (specie) | 1,677,742 | 2,075,476 | 5,615,000 | 1,982,000 | 3,701,156 |
| Coal | 119,920 | 103,849 | 79,884 | 72,774 | 66,094 |
| Tin | 22,182 | 19,785 | 25,765 | 26,175 | 7,838 |
| Skins (chiefly marsupial) | 80,351 | 131,233 | 122,559 | 207,452 | 143,814 |
| Wool | 150,396 | 118,358 | 95,458 | 89,454 | 41,469 |

The export of gold to the United States of America has already been referred to, and a statement of the coin and bullion sent away during each of the past ten years may be found interesting :—

| Year. | Value. | Year. | Value. |
|---|---|---|---|
| | £ | | £ |
| 1891 | 1,710,670 | 1896 | 1,677,742 |
| 1892 | 986,000 | 1897 | 2,075,476 |
| 1893 | 302,073 | 1898 | 5,615,000 |
| 1894 | 100,218 | 1899 | 1,982,000 |
| 1895 | 100,000 | 1900 | 3,701,156 |

## Belgium.

The direct trade between this state and Belgium began in 1881, and may, to a large extent, be attributed to the International Exhibition held in Sydney during 1879–80. In the year mentioned the combined imports and exports amounted to only £26,237, while in 1893 they had risen to £1,250,720, although in 1900 they were only valued at £768,010. This cannot but be regarded as a great increase in so short a time. In point of value the Belgian trade of the state is larger than that of any other foreign country, Germany, France, and the United States excepted; but the port of Antwerp, which receives the bulk of the trade, is a distributing centre for a great part of the wool destined for French, German, and other Continental markets, and it is not possible to say how much of the goods shipped to Belgium are for local requirements.

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The imports from Belgium comprise a large number of articles. Iron in its various manufactures, principally in bars, plate, and wire, forms a very large proportion of the total imports, and glassware, candles, cigars, cement, and starch are all imported to some extent, though the trade in each commodity is subject to considerable fluctuation. The outward trade is confined almost entirely to wool and skins and hides, the exports of the latter having increased to a surprising extent during the last few years, for while in 1894 they only amounted to £5,904, in 1900 they had increased to £93,661. In 1900 the amount of scoured and washed wool sent to Belgian ports was 1,352,894 lb., valued at £111,972, and 11,091,375 lb. of greasy wool, of the value of £394,280, making a total of £506,252. Belgium was, therefore, next to Great Britain, France, and Germany, the largest purchaser of New South Wales wool during the year. The only other exports worthy of mention during the year were silver ore to the value of £4,673, and wheat, £3,653. The following table shows the import and export trade with Belgium for the last ten years :—

| Year. | Imports. | Exports. | Year. | Imports. | Exports. |
|---|---|---|---|---|---|
| | £ | £ | | £ | £ |
| 1891 | 188,277 | 1,039,333 | 1896 | 104,293 | 877,880 |
| 1892 | 227,363 | 951,570 | 1897 | 77,552 | 668,545 |
| 1893 | 129,114 | 1,121,606 | 1898 | 98,077 | 887,272 |
| 1894 | 115,119 | 1,121,822 | 1899 | 107,223 | 1,565,860 |
| 1895 | 150,288 | 780,826 | 1900 | 147,661 | 620,349 |

## Germany.

A large trade has been maintained with Germany since 1879. Direct communication was established in 1887 by the North German Lloyd's Company, of Bremen, and further extended by a line of German cargo boats which commenced trading between Hamburg and Sydney in 1888. The trade has attained considerable dimensions, and now exceeds that with any other foreign country, although the Customs returns may not always disclose this fact. The larger trade with the United States is, as has been shown, mainly due to shipments of gold. The following table shows the values of the principal articles imported from Germany during the last five years. So great is the extension of the trade that it is only possible to give a selection of the goods now sent to the state; but a glance at the detailed imports will show that in nearly every

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branch of manufacture German productions are obtaining a footing in the Australian markets :—

| Description of Goods. | 1896. | 1897. | 1898. | 1899. | 1900. |
|---|---|---|---|---|---|
| | £ | £ | £ | £ | £ |
| Apparel and drapery | 88,485 | 107,445 | 96,011 | 106,592 | 159,758 |
| Arms, ammunition, and explosives | 10,025 | 12,355 | 12,094 | 8,632 | 12,294 |
| Beer | 17,902 | 16,934 | 8,663 | 13,489 | 10,328 |
| Books, paper, stationery, etc. | 20,387 | 28,009 | 20,700 | 37,149 | 54,220 |
| Boots and shoes | 21,612 | 22,096 | 16,924 | 16,075 | 20,464 |
| Candles | 22,331 | 20,052 | 9,405 | 11,419 | 21,086 |
| Cement | 31,131 | 45,872 | 60,303 | 96,839 | 62,055 |
| Chemical products | 4,188 | 8,405 | 19,029 | 18,891 | 28,392 |
| Drugs and apothecaries' wares | 9,404 | 14,092 | 11,410 | 8,890 | 11,415 |
| Furniture | 11,036 | 14,403 | 15,463 | 15,115 | 14,546 |
| Glass and glassware | 26,001 | 28,720 | 31,812 | 36,885 | 45,230 |
| Hardware and ironmongery | 9,863 | 11,913 | 12,976 | 13,476 | 16,933 |
| Hollow-ware | 12,848 | 19,547 | 14,320 | 10,238 | 19,616 |
| Iron and iron manufactures | 95,975 | 145,254 | 85,801 | 82,827 | 130,736 |
| Lampware | 6,465 | 11,270 | 4,425 | 4,788 | 4,646 |
| Machinery | 14,964 | 5,527 | 9,740 | 8,539 | 18,422 |
| Matches | 6,130 | 10,509 | 4,280 | 5,177 | 5,951 |
| Musical instruments | 55,056 | 74,104 | 51,068 | 85,051 | 88,948 |
| Sewing machines | 3,052 | 4,290 | 4,540 | 3,360 | 4,869 |
| Spirits | 39,102 | 42,424 | 28,699 | 42,591 | 47,629 |
| Starch | 8,407 | 12,051 | 9,401 | 9,665 | 15,973 |
| Sugar | 3,913 | 13,974 | 24,199 | 4,060 | 31,083 |
| Telegraphic material | 3,180 | 11,653 | 2,847 | 12,485 | 11,631 |
| Tobacco, cigars, and cigarettes | 19,744 | 24,623 | 20,811 | 16,690 | 25,358 |
| Toys and fancy goods | 19,035 | 28,804 | 30,401 | 31,405 | 37,278 |
| Zinc | 9,495 | 12,712 | 18,072 | 5,831 | 16,709 |

The exports consist almost entirely of wool, the value of which, in 1900, was £770,881, out of a total export of £844,495. The only other goods exported to a considerable value during the year were skins and hides, £22,810. The increase in the wool export has been chiefly due to the greater facilities now existing for direct shipment. The values of the imports and exports for the last ten years were as follow :—

| Year. | Imports. | Exports. | Year. | Imports. | Exports. |
|---|---|---|---|---|---|
| | £ | £ | | £ | £ |
| 1891 | 773,016 | 437,522 | 1896 | 690,843 | 771,389 |
| 1892 | 581,402 | 1,017,456 | 1897 | 900,464 | 880,440 |
| 1893 | 373,233 | 979,898 | 1898 | 771,626 | 1,158,814 |
| 1894 | 345,364 | 917,310 | 1899 | 856,032 | 1,286,188 |
| 1895 | 425,697 | 1,141,661 | 1900 | 1,105,664 | 844,495 |

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## France and New Caledonia.

The French trade has risen in importance since 1881, a result almost entirely due to the establishment of direct communication between this state and the Republic by the Messageries Maritimes Company, but it has been accompanied by a corresponding falling off in the trade with New Caledonia, the chief dependency of France in the South Pacific. Thus, while in 1891 the total value of French imports and exports amounted to only £600,920, as against £1,294,384 in 1900, that of New Caledonia fell during the corresponding period from £234,146 to £208,268.

Wearing apparel and drapery form in most years the largest class of imports from France. In 1900 the imports of drapery and silk amounted to £49,524; of apparel, to £34,185; and of boots, to £3,866. During that year, also, there was a considerable import of wines and spirits—the value of the former amounting to £37,379, and of the latter to £28,006. Toys and fancy goods to the value of £3,285; cigars, £936; cream of tartar, £32,395; glass and glassware, £2,110; leather, £1,666; roofing tiles, £9,804; paints, £2,124; tartaric acid, £10,079; drugs, £3,421; machinery, £3,782; dried fish, £1,927; railway plant, £2,178; dried fruits, £1,555; and matches, £1,350, were the only other goods largely imported. Great quantities of French goods are imported from Great Britain; but this indirect trade will ultimately be superseded by direct trade, and the cost of commission and double handling thus saved to the state.

Wool forms the chief export to France. The value exported during 1900 was £909,179—a decrease of £30,602 over the export of the preceding year. Sheepskins to the value of £74,394; other skins of a value of £11,324; and horns, £12,667, were also exported. The trade with France since 1891 is shown in the following table:—

| Year. | Imports. | Exports. | Year. | Imports. | Exports. |
|---|---|---|---|---|---|
| | £ | £ | | £ | £ |
| 1891 | 120,321 | 480,599 | 1896 | 145,972 | 1,472,909 |
| 1892 | 77,436 | 806,693 | 1897 | 211,317 | 1,543,480 |
| 1893 | 49,43 | 1,134,072 | 1898 | 214,530 | 1,699,629 |
| 1894 | 70,649 | 1,067,440 | 1899 | 259,166 | 2,127,461 |
| 1895 | 76,663 | 1,436,122 | 1900 | 270,084 | 1,024,300 |

As already pointed out, New Caledonia is an important market for the produce of the state, and though its value has been affected by the establishment of regular communication between France and her dependency, yet the figures for the last few years show that the trade is

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steadily advancing, and there is little reason to doubt that it will shortly attain its former proportions. The state of trade during the last ten years will be evident from the following figures:—

| Year. | Imports. | Exports. | Year. | Imports. | Exports. |
|---|---|---|---|---|---|
| | £ | £ | | £ | £ |
| 1891 | 48,378 | 185,768 | 1896 | 41,263 | 110,335 |
| 1892 | 18,242 | 184,128 | 1897 | 30,404 | 143,707 |
| 1893 | 21,417 | 89,791 | 1898 | 40,391 | 162,254 |
| 1894 | 25,171 | 72,732 | 1899 | 62,510 | 149,722 |
| 1895 | 28,345 | 71,344 | 1900 | 28,509 | 179,759 |

## China.

With the exception of Chile, with which an export trade to the value of £208,944, chiefly in coal, was transacted in 1900, the only other foreign countries whose trade with New South Wales reaches a large figure are China and Japan. The imports and exports credited to Hong Kong, however, belong in reality to the Chinese Empire generally, and the diminution which has taken place in the China trade since 1881 is to be attributed in no small degree to the transference of part of the trade from the ports of the Empire to Hong Kong. Still, when allowance is made on this score, it will be found that the actual loss of trade is by no means inconsiderable. The main import from China is tea, which exhibits a falling off, the decline being attributable to the larger consumption of Indian and Ceylon teas, the imports of which have largely increased during late years. The direct export trade has never been great. To correctly gauge the commercial relations between this state and China, the trade of Hong Kong should be considered in conjunction with the figures given below:—

| Year. | Imports. | Exports. | Year. | Imports. | Exports. |
|---|---|---|---|---|---|
| | £ | £ | | £ | £ |
| 1891 | 270,929 | 12,164 | 1896 | 190,545 | 7,877 |
| 1892 | 217,996 | 9,810 | 1897 | 187,646 | 2,598 |
| 1893 | 164,481 | 5,609 | 1898 | 151,241 | 14,745 |
| 1894 | 131,006 | 7,581 | 1899 | 191,286 | 13,987 |
| 1895 | 133,870 | 7,943 | 1900 | 190,456 | 68,004 |

## Japan.

The war with China gave Japan a new importance in the eyes of the world, and that enterprising country may in the future be expected to offer a large market for many of the products of New South Wales.

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A few years ago a commercial treaty with Japan was concluded by Great Britain, and it was open to the Australasian states to take advantage of its provisions; but the opportunity was allowed to pass by New South Wales, as it was considered that participation in its benefits would have left the state open to the unrestricted immigration of the Japanese. However, it is clear that, outside this treaty, the commercial relations of Australia with Japan will be greatly extended. Direct steam communication between this state and Japan is now firmly established by a fleet of high-class vessels subsidised by the Japanese Government, who fully recognise the advantages to be derived from the institution of an additional market in these states for the productions of their country, while, on the other hand, the discovery of a new market for Australian wool is fully appreciated by our own producers. The growth of the direct trade of New South Wales with Japan during the past seven years will be seen from the following table:—

| Year. | Imports. | Exports. |
|---|---|---|
| | £ | £ |
| 1894 | 27,468 | 15,302 |
| 1895 | 28,179 | 54,242 |
| 1896 | 40,857 | 35,523 |
| 1897 | 69,615 | 58,452 |
| 1898 | 77,079 | 64,221 |
| 1899 | 104,522 | 121,493 |
| 1900 | 122,041 | 133,989 |

The growth of the export trade is especially gratifying, and justifies the anticipations indulged in that a market for Australian wool would be found in Japan, the export of this article from New South Wales having increased from £3,170 in 1893 to £46,144 in 1900. The other chief items of export in 1900 were manures, £4,337; tallow, £3,372; bones, £1,575; gluepieces, £3,273; leather, £9,231; lead, £21,493; coke, £1,058; flour, £19,797; wheat, £15,940; and timber, £941. The imports during last year were principally rice, £40,278; silks, £27,490; toys and fancy goods, £7,981; oils, £1,376; mats and matting, £2,621; drapery, £1,320; furniture, £5,530; matches, £889; drugs and chemicals, £3,834; brushware, £736; basketware, £4,823; canes and rattans, £1,108; chinaware, £2,019; hatters' materials, £6,734; and sulphur, £5,751.

## Balance of Trade.

The flow of British money into the state for investment, and the proceeds of loans floated by the Government for the purpose of carrying out public works, so far exceeded the interest payable on the public debt and the earnings on private investments that the imports were formerly greatly in excess of the exports. Since 1890 the importations of

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capital have to a large extent ceased, and the exports have exceeded the imports. The interest to be provided annually by New South Wales on public loans, State and municipal, is about £2,074,000, and it is estimated that, in addition to this, there is a further sum of about £2,545,000 sent away as earnings on private investments and income of absentees, making a total annual charge of £4,619,000 at the present time. The following is a statement of the balance of trade for each of the last twelve years :—

| Year. | Excess of Imports. | Excess of Exports. |
|---|---|---|
| | £ | £ |
| 1889 | ..... | 431,877 |
| 1890 | 569,067 | ..... |
| 1891 | ..... | 560,623 |
| 1892 | ..... ..... | 1,195,721 |
| 1893 | ..... ..... | 4,814,188 |
| 1894 | ..... | 4,775,732 |
| 1895 | ..... ..... | 5,942,370 |
| 1896 | ..... | 2,448,839 |
| 1897 | ..... | 2,006,722 |
| 1898 | ..... | 3,194,557 |
| 1899 | ..... | 2,851,151 |
| 1900 | ..... | 603,445 |

The comparatively small excess of exports in 1900 was due to increased importation during that year in anticipation of the Federal tariff.

## Tariff Changes.

The Custom House, properly so called, was first established in the state in the year 1800, when spirits, wine, and beer were subjected to specific import duties for the purpose of raising a fund to complete a gaol then in course of construction in the city of Sydney. Between 1800 and 1830 the tariff was varied many times; there were the usual duties on spirits and tobacco, and *ad valorem* duties on other articles of consumption. A feature of the *ad valorem* duties was that they fell entirely on non-British products, as goods, wares, and merchandise, the growth, produce, or manufacture of the United Kingdom, and not the subject of specific duties, were admitted free. In April, 1830, a revision of the tariff was made, and it was enacted that on spirits, the produce of the United Kingdom or of His Majesty's plantations in the West Indies, and imported direct from the United Kingdom, there should be paid a duty of 6s. 6d. per gallon; on spirits made or distilled from grain, the produce of the state or its dependencies, 2s. 6d. per gallon, and if made from sugar or molasses, 8s. 6d. per gallon; and on spirits not the produce of the United Kingdom, imported, 8s. 6d. per gallon. On unmanufactured tobacco there was levied a duty of 1s. 6d.

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per lb., and on manufactured tobacco or snuff, 2s. per lb. These were the only fixed duties; on all other goods, not being the growth, produce, or manufacture of the United Kingdom, there was payable an *ad valorem* duty of 5 per cent.

The duties remained at these rates until the 1st April, 1840, when distillation from any article except grain was prohibited. From the 1st October of the same year the duty on spirits, the produce of the United Kingdom, or of British possessions in the West Indies or North America, and imported direct from the United Kingdom, was fixed at 9s. per gallon; on all other spirits the duty was to be 12s. per gallon. The duty on wine was fixed at 15 per cent. *ad valorem;* and on tea, sugar, flour, meal, wheat, rice, and other grain or pulse, 5 per cent. *ad valorem.* Unmanufactured tobacco was subject to a duty of 1s. 6d. per lb., and manufactured 2s. per lb.; all other goods, not the produce or manufacture of the United Kingdom, were subject to a duty of 10 per cent. *ad valorem.* From the same date the duty on locally distilled spirits was fixed at 6s. 6d. per gallon; but on the 1st January, 1842, it was raised to 9s. per gallon, which was the duty payable on spirits made in and imported from the United Kingdom. The restriction on local distilleries in regard to the use of anything but grain for distillation was at the same time removed, and by an order of the Queen in Council the produce of British India was admitted on the same terms as that of the United Kingdom. The tariff in regard to spirits was again altered on the 1st January, 1848; the duty on colonial spirits, rum, and whisky was reduced to 3s. 6d. per gallon, and on all other spirits to 6s. per gallon.

On the 5th August, 1852, what is known as the E. Deas-Thomson tariff came into effect. The duties were made uniform for all countries trading with the state, the differential treatment of British goods being done away with. The tariff was as follows:—

| Articles. | Rate of Duty. |
|---|---|
| Ale and beer in wood | ℔ gallon, 1d. |
| ,, in bottle | ,, 2d. |
| Coffee, chocolate, and cocoa | ℔ lb., ¾d. |
| Dried fruits | ,, ½d. |
| Brandy and gin | ℔ proof gal., 6s. |
| Whisky, rum, and all other spirits | ,, 4s. |
| Perfumed spirit | ℔ gallon, 4s. |
| Cordials | ,, 6s. |
| Refined sugar | ℔ cwt., 3s. 4d. |
| Unrefined sugar | ,, 2s. 6d. |
| Molasses | ,, 1s. 8d. |
| Tea | ℔ lb., 3d. |
| Manufactured tobacco, until 31 December, 1853 | ,, 1s. 6d. |
| ,, after 31 December, 1853 | ,, 1s. |
| Unmanufactured tobacco, to 31 December, 1853 | ,, 1s. |
| ,, after 31 December, 1853 | ,, 8d. |
| Cigars and snuff | ,, 2s. |
| Wine, in wood or bottle | ℔ gallon, 1s. |
| Colonial distilled spirit | ℔ proof gal., 3/8 |

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The duties remained untouched for two years, when the charges on spirits were increased as follows, as from November 10, 1854 :—

| Articles. | Rate of Duty. |
|---|---|
| Brandy and gin | ℔ proof gal., 9s. |
| Whisky, rum, and other spirits | ,, 6s. |
| Perfumed spirit | ℔ gallon, 6s. |
| Cordials | ,, 9s. |
| Colonial distilled spirit | ℔ proof gal., 5/8 |

From the 14th September, 1855, the following revised scale of duties was imposed :—

| Articles. | Rate of Duty. |
|---|---|
| Brandy and gin | ℔ proof gal., 10s. |
| Whisky, rum, and all other spirits | ,, 7s. |
| Perfumed spirits | ℔ gallon, 7s. |
| Cordials | ,, 10s. |
| Wine | ,, 2s. |
| Ale and beer, in wood | ,, 1d. |
| ,, in bottle | ,, 2d. |
| Tea | ℔ lb., 3d. |
| Sugar, refined and candy | ℔ cwt., 6s. 8d. |
| ,, unrefined | ,, 5s. |
| Treacle and molasses | ,, 3s. 4d. |
| Coffee and chicory | ℔ lb., 2d. |
| Cigars | ,, 3s. |
| Tobacco and snuff | ,, 2s. |
| Colonial spirits distilled from sugar | ℔ proof gal., 6/5 |

This tariff remained in force for ten years; the only changes made were that opium was added to the list of dutiable goods at 10s. per lb., and unmanufactured tobacco was charged from 1st January, 1862, with duty at the rate of 1s. per lb. instead of 2s. On the same date an export duty was levied on gold at the rate of 2s. 6d. per oz., but on the 13th October this export duty was reduced to 1s. 6d. per oz., and continued in force for seventeen years, the duty being abolished 10th July, 1879. A poll-tax of £10 was levied on Chinese from 22nd November, 1861.

The next alteration in the tariff was the imposition of a duty of 1s. per package on all goods imported into the state, excepting live stock, flour, wheat, sugar, tea, and goods in transit. These duties were in addition to existing duties, and were chargeable until the close of the year 1867. They were followed by an all-round increase of 20 per cent. in the duties payable in respect of all goods imported for home consumption, with the exception of tea, sugar, brandy, and gin. These additional duties remained in force until the 29th November, 1865,

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when a new tariff was imposed. The Act sanctioning the tariff was assented to on the 19th January, 1866; that is, about seven weeks after the duties were collected. The tariff as amended was as follows:—

| Articles. | | Rate of Duty. | |
|---|---|---|---|
| Tea | | ℔ lb., | 3d. |
| Sugar | refined | ℔ cwt., | 6s. 8d. |
| | unrefined | ,, | 5s. |
| | molasses | ,, | 3s. 4d. |
| Coffee and chicory | | ℔ lb., | 2d. |
| Tobacco | manufactured, and snuff | ,, | 2s. |
| | unmanufactured | ,, | 1s. |
| | cigars | ,, | 3s. |
| Spirits and spirituous compounds | | ℔ gallon, | 10s. |
| Wines | | ,, | 3s. |
| Ale and porter | in bottle | ,, | 6d. |
| | in wood | ,, | 3d. |
| Malt | | ℔ bushel, | 6d. |
| Hops | | ,, | 2d. |
| Opium | | ℔ lb., | 20s. |
| Rice | | ℔ ton, | 40s. |
| Dried fruits | | ℔ cwt., | 10s. |

On all other goods except those on the free list an *ad valorem* duty of 5 per cent. was chargeable. The free list comprised flour, wheat, animals, fresh fruits, wool, tallow, and some other articles, chiefly of re-export. The package duty was continued, as well as the duty of £10 levied on Chinese males arriving in the state, and the excise duty on colonial distilled spirits was raised to 9s. 5d. per gallon. The poll-tax on Chinese was repealed on 20th November, 1867, and for the next fourteen years the immigration of these aliens was unrestricted.

A further important change in the tariff was made, dating from the 22nd May, 1871. The number of articles subject to specific duties was very largely increased, and the 5 per cent. *ad valorem* duties were continued; but there was a much larger free list, introduced, it was stated, for the purpose of lightening as much as possible the South Sea Island trade. The *ad valorem* duties were abolished on the 1st January, 1874, and the number of articles liable to specific duty was reduced. The next twelve and a half years saw little alteration in the body of the tariff, the changes made being chiefly in the direction of increasing the duties on wines, spirits, and tobacco. From the 10th December, 1879, the spirit duties stood as follow:—

| Articles. | Rate of Duty. | |
|---|---|---|
| Spirits and spirituous compounds | ℔ proof gall., | 12s. |
| Colonial distilled spirits | ,, | 12s. |
| Sparkling wine | ℔ gallon, | 10s. |
| Other wine | ,, | 5s. |

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An Act taking effect from the 20th February, 1884, imposed a duty of 1d. per lb. on stearine, and established the following duties on tobacco :—

| Articles. | Rate of Duty. |
|---|---|
| Cigarettes ... .... ..... | ℔ lb., 6s. |
| Cigars..... ..... | ,, 6s. |
| Manufactured tobacco and snuff ..... | ,, 3s. |
| Unmanufactured tobacco for manufacturing purposes.. | ,, 1s. |

The same Act increased the duty on opium to 20s. per lb., and was followed by the imposition of an excise duty on locally-made tobacco of 1s. per lb., and on cigars and cigarettes of 2s. 6d. per lb.

In 1886 a considerable change was made in the tariff. From the 7th April the articles liable to fixed duties were largely increased in number, and the 5 per cent. *ad valorem* duties were reimposed. In the following year (3rd June, 1887) an excise duty of 3d. per gallon was made payable on beer brewed in the state, and on the 8th July the excise on locally-made tobacco was increased to 1s. 3d. per lb.

The specific and *ad valorem* duties imposed in September, 1886, were repealed on the 8th July, 1887, the repeal as regards malt and hops taking effect from 1st May, and for other duties from 1st October, 1887. The new schedule of duties which came into operation was much like the tariff existing prior to the changes of 1886, but the duty payable on spirits, both local and imported, was increased to 14s. per proof gallon, and on spirituous compounds to 14s. per liquid gallon.

In March, 1892, the tariff was again altered. The number of articles subject to specific duties was largely increased, and *ad valorem* duties of 10 and 15 per cent. were imposed; there was, however, a considerable free list. The duties took effect as from the 2nd December, 1891. After an existence of four years this tariff was abolished, and an entirely new system of duties came into force with the first day of 1896. The *ad valorem* duties were absolutely repealed, as well as the great bulk of the specific duties; the duties on narcotics and spirituous liquors were retained as a permanent tariff; and certain other duties were to be maintained for a certain period, after which they were to cease. From the 3rd November, 1898, a further change was made; the duties on sugar, glucose, molasses and treacle, biscuits, confectionery, fruits, jams, jellies, and preserves were made permanent, while 1d. per lb. was imposed on tea, and the duty on dried and candied fruits, exclusive of dates, increased to 2d. per lb. The following were the Customs duties in force to the end of 1900.

| | Articles. | Rate of Duty. |
|---|---|---|
| Spirits | On all kinds of spirits and spirituous compounds imported, and not otherwise enumerated ..... No allowance beyond 16·5 shall be made for the underproof of any spirit of a less strength than 16·5 underproof. | ℔ proof gall., 14s. |

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| Articles. | | Rate of Duty. |
|---|---|---|
| Spirits | Case spirits—Contents of two, three, four, or five gallons shall be charged— | |
| | Two gallons and under as two gallons. | |
| | Over two gallons and not exceeding three as three gallons. | |
| | Over three gallons and not exceeding four as four gallons. | |
| | Over four gallons and not exceeding five as five gallons. | |
| | Bitters, essences, fluid extracts, sarsaparilla, tinctures, medicines, infusions, and toilet preparations containing— | |
| | Not more than 25 per cent. of proof spirit | ℔ gall., 3s. 6d. |
| | Not more than 50 per cent. of proof spirit | ,, 7s. |
| | Not more than 75 per cent. of proof spirit | ,, 10s. 6d. |
| | If containing more than 75 per cent. of proof spirit | ,, 14s. |
| | If containing spirit overproof to be charged as spirituous compounds | ℔ proof gall., 14s. |
| | Methylated spirit | ℔ gallon, 1d. |
| | Perfumed spirits, perfumed waters, Florida water and bay rum | ℔ liquid gall., 20s. |
| Wines | Sparkling—For six reputed quarts, or twelve reputed pints | ..... 10s. |
| | Other kinds | ℔ gallon, 5s. |
| | Other kinds—For six reputed quarts, or twelve reputed pints | ..... 5s. |
| Beer, ale, porter, spruce, or other beer, cider, and perry. | In wood or jar | ℔ gallon, 6d. |
| | In bottle | ,, 9d. |
| | For six reputed quarts, or twelve reputed pints | ,, 9 |
| Tobacco | Delivered from ship's side or from a Customs Bond for home consumption—manufactured, unmanufactured, and snuff | ℔ lb., 3s. |
| | Unmanufactured, entered to be manufactured in the colony. At the time of removal from a Customs Bond or from an importing ship to any licensed tobacco manufactory for manufacturing purposes only into tobacco, cigars, and cigarettes | ,, 1s. |
| | Sheepwash | ,, 3d. |
| Cigars and cigarettes (including wrappers in latter case) | | ,, 6s. |
| Opium and any preparation thereof | | ,, 20s. |
| Sugar—refined | | ℔ cwt. 4s. |
| Sugar—raw, and solid glucose | | ,, 3s. |
| Molasses and treacle—glucose (liquid) and syrup | | ,, 2s. |
| Biscuits | | ℔ lb., ½d. |
| Confectionery (including cakes, comfits, liquorice, liquorice paste, lozenges of all kinds, cocoanut in sugar, sugar-candy, succades, and sweetmeats) | | ,, 1d. |
| Fruits—Dried, candied and prunes (exclusive of dates) | | ,, 2d. |
| Jams and jellies—per lb. or reputed package of that weight, and so in proportion for any such reputed weight | | ,, ½d. |
| Preserves and canned fruits, fruits boiled, peel drained, or dry | | ,, ½d. |
| Tea | | ,, 1d. |

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## Customs Revenue.

The amount of revenue collected by the Customs, including excise, etc., during each of the last five years, is given in the following table :—

| Particulars of Receipt and Rate of Duty. | | Amount Collected. | | | | |
|---|---|---|---|---|---|---|
| | | 1896. | 1897. | 1898. | 1899. | 1900. |
| **Import Duties.** | | £ | £ | £ | £ | £ |
| Spirits | ℔ gallon, 20s. | 5,578 | 5,445 | 5,014 | 4,398 | 5,386 |
| | ,, 14s. | 653,652 | 641,621 | 685,705 | 696,840 | 763,467 |
| Methylated Spirits | ,, 1s. | ..... | ..... | ..... | ..... | ..... |
| | ,, 1d. | 179 | ..... | 191 | 308 | 406 |
| Wine—Still | ,, 5s. | 17,265 | 16,091 | 16,245 | 15,678 | 17,533 |
| Wine—Sparkling | ,, 10s. | 7,045 | 6,695 | 6,381 | 7,236 | 9,895 |
| Ale and beer in wood | ,, 6d. | 20,845 | 22,052 | 19,419 | 18,268 | 16,930 |
| Ale and beer in bottle | ,, 9d. | 34,181 | 34,708 | 30,997 | 35,078 | 36,540 |
| Tobacco—Manufactured | ℔ lb., 3s. | 141,751 | 138,706 | 139,355 | 129,137 | 128,862 |
| Tobacco in leaf | ,, 3s. | 1,703 | 1,735 | 2,758 | 3,109 | 2,327 |
| Tobacco for Manufacturing purposes only | ,, 1s. | 34,128 | 43,926 | 53,874 | 62,733 | 77,793 |
| Cigars | ,, 6s. | 53,848 | 56,607 | 57,135 | 59,176 | 62,819 |
| Cigarettes | ,, 6s. | 20,241 | 24,451 | 26,069 | 24,434 | 21,408 |
| Sugar—Refined | ℔ cwt., 6s. 8d. | 972 | 484 | ..... | ..... | ..... |
| Sugar—Refined | ,, 5s. 4d. | ..... | ‖231 | 177 | ..... | ..... |
| Sugar—Refined | ,, 4s. | ..... | ..... | ¶233 | 225 | 287 |
| Sugar—Raw | ,, 5s. | 88,790 | 35,963 | ..... | ..... | ..... |
| Sugar—Raw | ,, 4s. | ..... | ‖49,699 | 31,323 | ..... | ..... |
| Sugar—Raw | ,, 3s. | ..... | ..... | ¶42,549 | 47,088 | 41,947 |
| Molasses | ,, 3s. 4d. | 944 | 431 | ..... | ..... | ..... |
| Molasses | ,, 2s. 8d. | ..... | ‖641 | 239 | ..... | ..... |
| Molasses | ,, 2s. | ..... | ..... | ¶414 | 512 | 358 |
| Sugar, Refined, ex Refinery | ,, 6s. 8d. | ..... | ..... | ..... | ..... | ..... |
| Sugar, Refined, ex Refinery | ,, 5s. 4d. | ..... | ‖293 | 248 | ..... | ..... |
| Sugar, Refined, ex Refinery | ,, 4s. | ..... | ..... | ¶300 | 660 | 720 |
| Sugar, Raw, ex Refinery | ,, 5s. | 89,210 | 4,749 | ..... | ..... | ..... |
| Sugar, Raw, ex Refinery | ,, 4s. | ..... | ‖29,240 | 10,937 | ..... | ..... |
| Sugar, Raw, ex Refinery | ,, 3s. | ..... | ..... | ¶16,970 | 74,640 | 89,762 |
| Molasses ex Refinery | ,, 3s. 4d. | 7,600 | 2,778 | ..... | ..... | ..... |
| Molasses ex Refinery | ,, 2s. 8d. | ..... | ‖3,734 | 2,029 | ..... | ..... |
| Molasses ex Refinery | ,, 2s. | ..... | ..... | ¶2,800 | 5,000 | 4,800 |
| Candles | ℔ lb., 1½d. | ..... | ..... | ..... | ..... | ..... |
| Candles | ,, 1d. | 11,169 | 3,570 | ..... | ..... | ..... |
| Candles | ,, ½d. | ..... | 4,198 | 7,305 | 2,200 | ..... |
| Confectionery | ,, 2d. | 5,421 | 6,099 | 2,212 | ..... | ..... |
| | ,, 1d. | ..... | ..... | 2,386 | 4,497 | 5,065 |
| Opium | ,, 20s. | 16,616 | 17,248 | 18,726 | 17,327 | 16,406 |
| Rice | ℔ ton, 60s. | †6,392 | ..... | 454 | ..... | ..... |
| Dried Fruits | ℔ lb., 2d. | 62,273 | 59,921 | 32,282 | 65,407 | 54,945 |
| Dried Fruits | ,, 1d. | ..... | ..... | 14,517 | ..... | ..... |
| Timber—Rough | ℔ 100 ft. sup., 1s. 6d. | †11,206 | ..... | ..... | ..... | ..... |
| Timber—Dressed | ,, 3s. | †2,339 | ..... | ..... | ..... | ..... |
| Kerosene | ℔ gallon, 6d. | ‡21,397 | ..... | ..... | ..... | ..... |
| | ,, 3d. | §16,902 | 10,978 | ..... | ..... | ..... |
| Flour | ℔ cental, 1s. | *6 | ..... | ..... | ..... | ..... |
| Wheat | ,, 10d. | *..... | ..... | ..... | ..... | ..... |
| Duty collected on Samples of Spirits | | 124 | 147 | 149 | 213 | 168 |
| Other Specific Duties | | 75,019 | 27,700 | 29,844 | 77,802 | 79,479 |
| *Ad valorem* Duties | 10 per cent. | *144 | ..... | ..... | ..... | ..... |
| | 15 ,, | *29 | ..... | ..... | ..... | ..... |
| Total Import Duties | | 1,406,969 | 1,250,176 | 1,259,237 | 1,351,956 | 1,437,303 |

* To 31st December, 1895 ; free from that date. † To 30th June, 1896 ; free from that date.
‡ To 30th June, 1896. § From 1st July, 1896. ‖ Reduced rate from 1st July, 1897.
¶ Reduced rate from 1st July, 1898.

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| Particulars of Receipt. | Amount Collected. | | | | |
|---|---|---|---|---|---|
| | 1896. | 1897. | 1898. | 1899. | 1900. |
| | £ | £ | £ | £ | £ |
| EXCISE. | | | | | |
| Spirits distilled in the State....⅌ gal., 14s. | 5,609 | 5,025 | 2,865 | 4,972 | 7,045 |
| Excise on Tobacco .....⅌ lb., 1s. 3d. | 116,101 | 117,046 | 124,545 | 129,548 | 136,166 |
| Excise on Cigars and Cigarettes.. ,, 2s. 6d. | 21,840 | 24,324 | 29,075 | 38,084 | 46,774 |
| Excise on Beer.....⅌ gal., 3d. | 127,217 | 135,080 | 145,936 | 152,732 | 167,635 |
| Tobacco Factory License Fees..... | 1,335 | 1,123 | 1,067 | 1,213 | 1,312 |
| TOTAL EXCISE..... | 272,102 | 282,598 | 303,488 | 326,549 | 358,932 |
| MISCELLANEOUS COLLECTIONS. | | | | | |
| Tax on Chinese..... | 200 | 300 | 300 | 300 | 300 |
| Bonded Warehouse License Fees ..... | 8,858 | 7,017 | 6,867 | 6,786 | 6,251 |
| Rent of Goods in King's Warehouse ..... | 54 | 16 | 24 | 19 | 29 |
| Pilotage ..... | 31,722 | 16,849 | 17,321 | 18,535 | 24,649 |
| Harbour and Light Rates ..... | 23,399 | 24,732 | 24,534 | 24,418 | 31,546 |
| Removal Dues ..... | 5,695 | 6,990 | 5,898 | 5,347 | 9,242 |
| Shipping Fees (at ports other than Sydney or Newcastle)..... | 9 | 11 | 10 | 4 | 5 |
| Attendance of Officers superintending repacks | 261 | 8 | 26 | 144 | 66 |
| Crown's Share of Seizures and Penalties .... | 375 | 669 | 715 | 523 | 569 |
| Surplus Proceeds, Sale of Overtime Goods .. | 184 | 13 | 178 | 184 | 184 |
| Tonnage Rates at Newcastle..... | 8,319 | 8,968 | 9,767 | 8,453 | 11,528 |
| Tonnnage Rates at Wollongong ..... | 132 | 323 | 316 | 359 | 480 |
| Tobacco—Licenses to Sell ..... | 581 | 632 | 612 | 624 | 595 |
| Sundries ..... ..... | 376 | 388 | 336 | 455 | 753 |
| TOTAL MISCELLANEOUS COLLECTIONS.....£ | 80,165 | 66,916 | 66,904 | 66,146 | 86,207 |
| TOTAL AMOUNT COLLECTED .....£ | 1,759,236 | 1,599,690 | 1,629,629 | 1,744,651 | 1,852,442 |
| DRAWBACKS AND REFUNDS .....£ | 41,993 | 13,041 | 11,314 | 18,457 | 17,989 |
| NET CUSTOMS AND EXCISE REVENUE.....£ | 1,717,243 | 1,586,649 | 1,618,315 | 1,726,194 | 1,834,533 |

The revenue derived from imported spirits, inclusive of perfumed spirits and samples, during the past ten years, was :—

| Year. | Quantity on which duty was paid. | Duty. | Amount of duty collected. |
|---|---|---|---|
| | gallons. | | £ |
| 1891 | 1,241,503 | 14s., 15s., and 20s. | 869,513 |
| 1892 | 1,158,703 | 14s. and 20s. | 812,560 |
| 1893 | 975,971 | 14s. and 20s. | 684,352 |
| 1894 | 936,125 | 14s. and 20s. | 656,884 |
| 1895 | 914,054 | 14s. and 20s. | 641,389 |
| 1896 | 939,368 | 14s. and 20s. | 659,354 |
| 1897 | 922,046 | 14s. and 20s. | 647,213 |
| 1898 | 984,591 | 14s. and 20s. | 690,868 |
| 1899 | 999,884 | 14s. and 20s. | 701,451 |
| 1900 | 1,096,052 | 14s. and 20s. | 769,021 |

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Colonial distilled spirits are subject to an excise equal to the duty on imported spirits. In 1886 the quantity entered for consumption was 9,733 gallons, on which a sum of £5,846 was paid; but in 1887, notwithstanding the increased duty levied, the quantity subject to excise increased to 15,762 gallons, and the amount of duty to £10,754. In 1892 the duty collected amounted to £21,132 on 30,187 gallons of spirit distilled, in 1893 to £18,165 on 25,950 gallons, in 1894 to £14,694 on 20,991 gallons, and in 1895 to £8,606 on 12,294 gallons. Consequent upon the closing of the only distillery in the state in the middle of the year 1895, the production of locally distilled spirits decreased considerably, and the diminished duties of the last few years are thus accounted for. In 1896 the duty collected amounted to only £5,609 on 8,013 gallons, in 1897 to £5,025 on 7,179 gallons, in 1898 to £2,865 on 4,093 gallons, in 1899 to £4,972 on 7,103 gallons, and in 1900 to £7,045 on 10,064 gallons.

Still wine is subject to an import duty of 5s. per gallon, and sparkling wine to 10s. per gallon. The import of the first-named is now less than it was ten years ago, and the Customs revenue derived from this article has considerably declined. The amount of still wine imported during 1900 was 70,132 gallons, on which £17,533 duty was paid. The quantity of sparkling wine on which duty amounting to £9,895 was collected was 19,790 gallons. The growing favour in which Australian wine is held, and the general depression, which has limited the amount of money available for luxuries of this kind, have had the effect of reducing the importations of foreign wine.

The import of ale and beer was larger during 1891 than in any previous year, the quantities of beer imported, on which duty was paid, being 1,017,617 gallons in wood and 1,481,681 gallons in bottle, or a total of 2,499,298 gallons; in 1900 the figures had fallen to 677,200 gallons and 974,400 gallons respectively, paying duty to the amount of £53,470, at the rate of 6d. per gallon for beer in wood or jar and 9d. for bottled. The excise duty on beer brewed in the state is at the rate of 3d. per gallon. It was first collected for the second half-year of 1887, and amounted to £63,565, the quantity on which duty was paid being 5,085,217 gallons; in 1892, excise duty amounting to £135,090 was collected on 10,807,200 gallons; and this was the highest total reached until 1898, when the duty amounted to £145,936 on 11,674,880 gallons. In 1899 the collections amounted to £152,732 on 12,218,560 gallons, and in 1900 to £167,635 on 13,410,800 gallons. As a set-off against the duty thus imposed, no duties are levied on hops and malt.

The duties levied on tobacco imported into the state are, on the manufactured article, 3s. per lb.; on tobacco for manufacturing purposes if delivered from bond to any licensed tobacco manufactory, 1s. per lb.; on the leaf if delivered from bond for home consumption, and not to any licensed factory, 3s.; and on cigars and cigarettes, 6s. The excise on tobacco made in the state stood at 1s. 3d. per lb., and on cigars and cigarettes, at 2s. 6d., up till the 7th June, 1901, when the charges were



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lowered by the operation of the Excise Reduction Act of 1900 to 9d. on tobacco and cigars and 1s. 6d. on cigarettes. The total amount of import duties collected on tobacco and cigars during 1900 was £293,209, as against £278,589 collected in 1899, and £279,191 in 1898.

In 1884 excise duties were first levied on tobacco manufactured in the state. The amount collected annually during the last ten years was :—

| Year. | Tobacco. | Cigars and Cigarettes. | Year. | Tobacco. | Cigars and Cigarettes. |
|---|---|---|---|---|---|
| | £ | £ | | £ | £ |
| 1891 | 123,937 | 7,425 | 1896 | 116,101 | 21,840 |
| 1892 | 122,789 | 10,265 | 1897 | 117,046 | 24,324 |
| 1893 | 111,035 | 13,188 | 1898 | 124,545 | 29,075 |
| 1894 | 108,281 | 15,011 | 1899 | 129,548 | 38,084 |
| 1895 | 117,734 | 17,183 | 1900 | 136,166 | 46,774 |

After the duty was increased in 1886 the revenue derived from the imported leaf was found to decline, the place of the imported article being supplied by leaf grown in the state. To meet this falling off, the excise duty levied on colonial-made tobacco entered for home consumption was increased, in March, 1887, from 1s. to 1s. 3d. per lb. As previously stated, the excise remained at 1s. 3d. till the 7th June, 1901, when the New South Wales charges were placed on the Victorian level, the rate being reduced to 9d. per lb.

The duty on tea, 3d. per lb., was abolished in March, 1892; and for a period of 6½ years the import of this article was free, a duty of 1d. per lb. being imposed on 3rd November, 1898. While the 3d. duty was in force the amount of revenue varied very little from year to year, being a little over £100,000. The revenue received from this source for the nine years from 1884 to 1892, and for the years 1898, 1899 and 1900 is shown below. The increase in 1891 was due to withdrawals from bond in anticipation of an increase of duty, which, however, was not imposed:—

| Year. | Amount. | Year. | Amount. |
|---|---|---|---|
| | £ | | £ |
| 1884 | 100,059 | 1890 | 106,986 |
| 1885 | 98,915 | 1891 | 120,326 |
| 1886 | 105,979 | 1892* | 4,009 |
| 1887 | 106,815 | 1898† | 3,786 |
| 1888 | 100,617 | 1899 | 52,377 |
| 1889 | 108,954 | 1900 | 52,466 |

* To 1st March. † From 3rd November.

The duty on sugar has been subject to considerable alterations during the past few years. A scale of diminishing duties was established on 1st January, 1896; but, from 3rd November, 1898, a permanent tariff

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of 4s. per cwt. on refined sugar, and 3s. per cwt. on raw sugar, was fixed. The Commissioners of Customs only include loaf sugar under the heading of refined, and the quantity imported during 1900 was but 5,035 cwt., paying duty to the amount of £1,007. The duty collected on raw sugar, which includes all the ordinary sugars of trade, amounted to £131,709 during the year, and the collections for the past ten years appear in the following table:—

| Year. | Quantity. | Amount. | Year. | Quantity. | Amount. |
|---|---|---|---|---|---|
| | cwt. | £ | | cwt. | £ |
| 1891 | 519,725 | 129,931 | 1896 | 712,000 | 178,000 |
| 1892 | 521,444 | 130,362 | 1897 | 557,503 | 119,641 |
| 1893 | 414,048 | 103,602 | 1898 | 608,093 | 101,779 |
| 1894 | 629,656 | 157,414 | 1899 | 811,520 | 121,728 |
| 1895 | 516,156 | 129,039 | 1900 | 878,060 | 131,709 |

The other articles which produced most revenue in 1900 were fruit, dried and candied, which yielded £54,945; opium, £16,406; bitters, sarsaparilla, essences, and tinctures, £17,355; molasses, £5,158; confectionery, £5,065; jams and jellies, £4,028; glucose, £2,502; tea, £52,466; and other articles, £3,534; these amounts, together with those already given for spirits, wines, beer, tobacco, and sugar, making up the amount of duties collected, viz., £1,437,303. From this amount, however, drawbacks and refunds were allowed to the amount of £15,540, so that the net revenue was £1,421,763. During the same period the excise duties amounted to £358,932, and drawbacks and refunds to £1,702, leaving the net duty £357,230. The net import and excise duties together were £1,778,993.

The following table shows the net Customs revenue, exclusive of harbour dues, etc., in each state and New Zealand for the year 1900:—

| State. | Import Duties. | Excise. | Total. |
|---|---|---|---|
| | £ | £ | £ |
| New South Wales ... | 1,421,763 | 357,230 | 1,778,993 |
| Victoria ..... | 1,980,379 | 340,678 | 2,321,057 |
| Queensland ..... | 1,424,279 | 141,558 | 1,565,837 |
| South Australia ..... | 598,829 | 40,176 | 639,005 |
| Western Australia... | 944,746 | 31,665 | 976,411 |
| Tasmania ..... ... | 465,223 | 24,698 | 489,921 |
| Commonwealth ... | 6,835,219 | 936,005 | 7,771,224 |
| New Zealand ..... | 2,170,354 | 89,284 | 2,259,638 |

A statement of the amount per head is apt to lead to false conclusions, for it has to be borne in mind that a low consumption of taxable goods under a high tariff may give a revenue per head not greater than a high consumption under a low tariff.

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The gross Customs' revenue collected at Sydney, outports, and inland stations during the year 1900 is shown below :—

| Station. | Amount. | Station. | Amount. |
|---|---|---|---|
| | £ | | £ |
| Sydney | 1,635,585 | Mungindi | 18 |
| Albury | 16,395 | Newcastle | 120,066 |
| Boggabilla | 154 | Richmond River | 7 |
| Bourke | 9,585 | Swan Hill Crossing | 1,472 |
| Cobram | 2,326 | Tocumwal | 2,492 |
| Corowa | 4,415 | Tweed River | 7 |
| Deniliquin | 7,356 | Wallangarra | 792 |
| Eden | 3 | Wentworth | 5,454 |
| Euston | 666 | Wilcannia | 8,043 |
| Grafton | 35 | Willyama | 43,512 |
| Howlong | 622 | Wollongong | 652 |
| Moama | 8,992 | Paid direct to Treasury | 1,159 |
| Morpeth | 11,274 | | |
| Mulwala | 1,360 | Total ... £ | 1,882,442 |

Exclusive of the receipts from the public wharves, and of the payments received from the Navigation Department, the revenue of the Customs Department in 1900 was £1,786,304; and the expenditure, including the value of the stores and stationery used during the year, £55,301, or £3 1s. 11d. for every £100 collected. This average cost does not include the interest on £188,000, the capital value of the land and buildings occupied in the transaction of the Customs business.

With the proclamation of the Commonwealth on the 1st January, 1901, the control of Customs and excise passed over to the Federal authority. The Federal tariff came into force on the 8th October, 1901; but at the date of publication of this work the details were still under discussion in the House of Representatives. For the year 1901–2 it is estimated by the Federal Treasurer that the tariff will yield a revenue of about £8,009,000, of which New South Wales will contribute £2,360,000, or 29·5 per cent. The actual results of the Customs collections so far point to a greater return than estimated; but it is premature to discuss the probabilities of Federal revenue until the tariff proposals become law.

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# INSTRUCTION, SCIENCE, AND RELIGION.

## Instruction.

THE history of primary education in New South Wales is naturally divided into four periods. During the first period, which lasted until 1848, the system in force was purely denominational, the Government granting to the heads of religious bodies assistance in proportion to the amount expended by them for educational purposes. There was no provision for the establishment of schools entirely under State control, and considerable dissatisfaction was the result. As early as 1834 there had been attempts to secure a modification of the system in force, and in 1839 a grant was made for the purpose of imparting instruction, free from sectarian influence, to the children of those persons who objected to denominational education. It was not, however, until 1844 that any definite steps were taken in the direction of effecting a change in the educational policy of the State. In that year a Committee of the Legislative Council reported in favour of the adoption of the Irish National School system, and, in accordance with this recommendation, an Act was passed in 1848 constituting two Boards, to one of which was entrusted the administration of denominational education, and to the other the undenominational, or, as it was called, the National system; primary education in the State thus entering upon its second period. This anomaly of two rival Boards, after existing for eighteen years, was abolished by the Public Schools Act of 1866, which, though providing for the continuance of the two distinct classes of schools, placed all schools receiving aid from the State under the control of a Board appointed by the Government, and styled the Council of Education, the public schools being entirely administered by this Board, and the denominational schools governed in conjunction with the various religious bodies by whom they had been founded. Although the system established by this Act was essentially one of transition, education nevertheless made considerable progress during the period when it was in force. It was, however, found impossible to maintain this dual system, not only on account of its intrinsic defects, but because the principle of granting State aid to religious schools was repugnant to the feelings of the majority of the people, and in 1880 State aid to denominational education was abolished by an Act passed under the auspices of Sir Henry Parkes, and the State entered upon the fourth, and present, period in the history of primary instruction.

Under the Public Instruction Act of 1880, which received the Royal assent on the 16th April in that year, the entire educational system of the state was remodelled. In the first place, the Education Act of 1866 was repealed, the Council of Education dissolved, and the control

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of educational matters placed in the hands of a Minister for Public Instruction. Provision was made for the establishment and maintenance of public schools, to afford primary instruction to all children without sectarian or class distinction; of superior public schools, in which additional lessons in the higher branches might be given; of evening public schools, with the object of instructing persons who had not received the advantages of primary education while of school age; and of high schools for boys and girls, in which the course of instruction should be of such a character as to complete the public school curriculum, or to prepare students for the University. It was provided that in all schools administered under the Act the teaching should be strictly non-sectarian; but the words "secular instruction" were held to include general religious teaching, as distinguished from dogmatical or polemical theology. The history of England and of Australia, it was decided, should form part of the course of secular instruction. Four hours during each school day were to be devoted to secular instruction exclusively; but it was provided that another hour each day might be set apart for religious instruction, to be given in a separate class-room by a clergyman or religious teacher of any persuasion to children of the same persuasion whose parents had no objection to their receiving such religious instruction.

This provision permitting religious instruction to be given to scholars in State schools has been taken advantage of to some extent by several of the denominations. Ten salaried teachers are employed by the Church of England in the Diocese of Sydney to give special religious instruction in public schools. One of the Bishop's chaplains holds the appointment of Diocesan Inspector of Schools, but he has no authority outside the classes for special religious instruction. The Presbyterian and Wesleyan clergy also visit the public schools for the purpose of imparting religious instruction to children belonging to those denominations.

It is compulsory for parents to send their children between the ages of 6 and 14 years to school for at least seventy days in each half-year, unless just cause of exemption can be shown. Penalties are provided by the Act for breaches of this provision. But although education is compulsory, it is not altogether free, for parents are required to pay a weekly fee of 3d. per child, but not exceeding 1s. in all for the children of one family. Power is given, however, to the Minister, and to the Local Board subject to ministerial approval, to remit the fees where it is shown that the parents are unable to pay. The fees, except those received from pupils attending evening schools, are not the property of the teacher, but are paid into the Consolidated Revenue Fund. School children are allowed to travel free by rail to the nearest public or private primary school; to the nearest superior public school provided they are sufficiently advanced to be enrolled in the fifth class; and to the High Schools.

Other sections of the Act permit of the establishment of provisional schools, and the appointment of itinerant teachers in remote and thinly-

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populated districts. Provision is also made for the establishment of training schools for teachers. It is enacted that Local Boards shall be appointed, whose duty it is to visit and inspect the public schools placed under their supervision, to suspend teachers in cases of misconduct not admitting of delay, to endeavour to induce parents to send their children regularly to school, and to report the names of parents or guardians who refuse or fail to educate their children. It should be observed that parents are not compelled to send their children to the public schools; they have full choice in the matter, the State only insisting that a certain standard of education shall be attained, no matter whether the instruction be imparted in public or private schools.

Great as has been the material progress of the state, its intellectual advancement has been much more rapid. At the Census of 1881, out of the 751,468 persons enumerated, there were 195,029, or very nearly 26 per cent., unable to read; while of the 977,176 natives of the State at the Census of 1901, only 226,780, or 23·2 per cent., were returned as unable to read. Included in this number were 154,659 children of 4 years of age and under, so that there were only 72,121 persons, or 8 per cent. of the population 5 years of age and over, who were unable to read.

Another gauge of educational progress will be found in the entries of the marriage registers signed by marks. The earliest official record of marriages is that for 1857. Of 5,804 persons married during that year, 1,646, or 28·4 per cent., were unable to sign the marriage register; while in 1900 the number of such persons was only 290, or 1·5 per cent. of the total number married. A generation has passed away during the period embraced by the following table, and the improvement shown thereby cannot fail to be interesting:—

| Year. | Persons married. | Percentage signing with marks. | Number signing with marks. | Year. | Persons married. | Percentage signing with marks. | Number signing with marks. |
|---|---|---|---|---|---|---|---|
| 1857 | 5,804 | 28·4 | 1,646 | 1888 | 15,688 | 3·7 | 587 |
| 1860 | 5,890 | 26·5 | 1,559 | 1889 | 15,060 | 3·4 | 504 |
| 1865 | 7,156 | 22·1 | 1,579 | 1890 | 15,752 | 2·7 | 426 |
| 1870 | 7,696 | 18·2 | 1,403 | 1891 | 16,914 | 3·1 | 521 |
| 1875 | 9,210 | 12·3 | 1,129 | 1892 | 16,044 | 3·1 | 491 |
| 1880 | 11,144 | 6·7 | 743 | 1893 | 15,498 | 2·2 | 335 |
| 1881 | 12,568 | 6·9 | 872 | 1894 | 15,332 | 1·9 | 292 |
| 1882 | 13,896 | 5·6 | 782 | 1895 | 16,060 | 2·1 | 336 |
| 1883 | 14,810 | 6·1 | 903 | 1896 | 16,990 | 2·2 | 371 |
| 1884 | 14,964 | 5·2 | 783 | 1897 | 17,626 | 1·5 | 265 |
| 1885 | 15,236 | 4·7 | 723 | 1898 | 17,776 | 1·7 | 307 |
| 1886 | 15,622 | 4·0 | 622 | 1899 | 18,550 | 1·4 | 263 |
| 1887 | 15,180 | 3·5 | 531 | 1900 | 19,992 | 1·5 | 290 |

The progress which this table shows is marvellous; and, moreover, in considering the proportion of persons signing with marks in 1900, the fact must not be lost sight of that, of the 290 persons who so affixed their

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signatures to the marriage registers in that year, a large number were not born in New South Wales, and arrived too late in life to avail themselves of its educational system. In some of the other provinces the degree of illiteracy, as disclosed by the marriage registers, is even less than in New South Wales, as will be seen from the following figures, which in every case are for the year 1900:—

| | Percentage signing with marks. |
|---|---|
| New South Wales | 1·5 |
| Victoria | 0·8 |
| Queensland | 2·2 |
| South Australia | 1·0 |
| Western Australia | 1·2 |
| Tasmania | 3·2 |
| New Zealand | 1·0 |

The percentage of persons signing with marks in Tasmania is, it will be seen, much higher than in any of the other States.

Only an imperfect comparison of the number of children receiving instruction during past years can be made, as the number in actual attendance cannot be distinguished from the number enrolled. The following table gives the number of schools, both public and private, including the University, and the number of enrolled scholars for a period of sixty-three years; and though it cannot be taken as absolutely correct, it may be relied on as being fairly indicative of the educational progress of the state. Victoria, it should be remembered, was separated in 1851, while in 1861 Queensland had also been formed into a separate colony:—

| Year. | Population of the State. | Schools. | Children enrolled. | Percentage of population enrolled. |
|---|---|---|---|---|
| 1836 | 77,096 | 85 | 3,391 | 4·4 |
| 1841 | 149,669 | 209 | 9,632 | 6·4 |
| 1846 | 196,704 | 394 | 19,033 | 9·7 |
| 1851 | 197,168 | 423 | 21,120 | 10·7 |
| 1856 | 286,873 | 565 | 29,426 | 10·3 |
| 1861 | 357,978 | 849 | 37,874 | 10·6 |
| 1866 | 428,813 | 1,155 | 59,594 | 13·9 |
| 1871 | 517,758 | 1,450 | 77,889 | 15·0 |
| 1876 | 604,239 | 1,629 | 131,620 | 21·4 |
| 1881 | 765,015 | 2,066 | 197,412 | 25·4 |
| 1886 | 969,455 | 2,833 | 226,860 | 22·9 |
| 1891 | 1,142,030 | 3,175 | 252,947 | 22·1 |
| 1892 | 1,176,990 | 3,236 | 258,582 | 21·9 |
| 1893 | 1,203,170 | 3,317 | 257,875 | 21·4 |
| 1894 | 1,226,900 | 3,386 | 259,466 | 21·1 |
| 1895 | 1,250,760 | 3,463 | 270,176 | 21·6 |
| 1896 | 1,270,620 | 3,483 | 277,675 | 21·9 |
| 1897 | 1,290,380 | 3,541 | 284,310 | 22·0 |
| 1898 | 1,312,460 | 3,570 | 287,586 | 21·9 |
| 1899 | 1,333,600 | 3,758 | 295,596 | 22·2 |
| 1900 | 1,354,340 | 3,666 | 300,837 | 22·2 |

The number of children given above as enrolled in the various schools exceeds, in almost every case, the actual school attendance, as the gross enrolment for the year is given, and not the mean for each quarter. The

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latter information cannot be obtained except for recent years, but the figures as they stand give a basis of comparison which is not without value.

The following table shows the gross enrolment of distinct children during the ten years which closed with 1900, as well as the quarterly enrolment, in the public and private schools of the state, omitting the Sydney Grammar School and the University. The mean quarterly enrolment may be taken as giving the nearest approximation to the number of children actually under tuition in State and private schools :—

| Year. | Schools. | Teachers. | Scholars. | | |
|---|---|---|---|---|---|
| | | | Gross enrolment. | Mean quarterly enrolment. | Percentage of children of school age in mean quarterly enrolment. |
| 1891 | 3,161 | 7,028 | 250,691 | 223,296 | 82·6 |
| 1892 | 3,221 | 7,353 | 256,388 | 231,954 | 82·8 |
| 1893 | 3,302 | 7,305 | 255,678 | 231,728 | 81·0 |
| 1894 | 3,371 | 7,419 | 257,281 | 232,694 | 79·5 |
| 1895 | 3,447 | 7,422 | 268,047 | 243,726 | 81·4 |
| 1896 | 3,467 | 7,529 | 275,570 | 250,992 | 82·3 |
| 1897 | 3,525 | 7,788 | 282,300 | 258,090 | 81·4 |
| 1898 | 3,552 | 8,008 | 285,740 | 262,089 | 81·1 |
| 1899 | 3,740 | 8,279 | 293,392 | 268,791 | 82·0 |
| 1900 | 3,648 | 8,366 | 297,932 | 273,040 | 80·2 |

In the gross enrolment for 1900 the 1,683 children in reformatories, industrial schools, and charitable institutions were not included. Taking these into account, 80·5 per cent. of all the children of school age were receiving instruction in schools. The ages of children enrolled at State and private schools during 1900 were as follow :—

| Age Period. | State Schools. | Private Schools. | Total. |
|---|---|---|---|
| Under 6 years ..... | 11,412 | 6,821 | 18,233 |
| 6 and under 14 years | 204,671 | 44,695 | 249,366 |
| 14 years and over ... | 22,299 | 8,034 | 30,333 |
| Total ..... | 238,382 | 59,550 | 297,932 |

Under the Public Instruction Act it is only compulsory to send children between the ages of 6 and 14 years to school ; but children of 5 years of age are received at the public schools, and, as will be seen from the figures given, many scholars of that age are in attendance at State and private schools, as well as a very considerable number who have passed the school age.

According to the Census of 1901, the number of children of school age in New South Wales—that is to say, those who were not less than 6 years of age, and had not passed the age of 14—was 263,835, of whom 233,590 were receiving instruction in public and private schools and public institutions, namely, 172,352 at State schools, and the remainder at the various private and denominational schools, reformatories, and charitable institutions in the State ; 12,755 were receiving

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instruction at home; and 17,457 were under no tuition, but this number must have included a number of boys who had left school. The number of children of school age receiving instruction formed 93·37 per cent. of the total; and in addition there were 30,300 children outside the limits of school age who were in attendance at State schools, 13,400 at private and denominational schools, as well as 583 students at the University of Sydney. The total known enrolment at private schools during the December quarter of 1900 was 60,327, and the average attendance, 47,816. Of the net yearly enrolment at the State schools, 63·2 per cent. of the children attended school 70 days or more in the first half of 1900, and 72·3 per cent. in the second half of the year, the decrease during the first half-year being due to the outbreak of bubonic plague, which had a prejudicial effect on the attendance at schools within the metropolitan area. The weakness of the compulsory clauses of the Education Act is in great measure responsible for the fact that attendance at the state schools is not so high as it should be. The burden of proof of school attendance rests with the Crown, and a common device resorted to in order to evade action by the Department, is for the parents to state that a child attends some private institution, the principal of which cannot be compelled to produce records. Again, the fines imposed for breaches of the Act are so inadequate that parents gladly pay them, finding themselves amply reimbursed by the value of their children's labour, who in busy times are frequently kept away from school for lengthened periods. More stringent measures are also needed to cope with the evil of truancy, one of the most fruitful causes of juvenile crime. It is a regrettable circumstance that at present the Act in many cases cannot reach children whose names are not on the roll of any school, while the parents of others whose attendance falls short of the prescribed 70 days in each half-year are liable to prosecution. It is hoped that these anomalies will shortly be remedied by legislation. At the Census periods of 1861, 1871, 1881, 1891, and 1901, the degree of education of every 10,000 children over 5 and under 10 years of age was as follows:—

| | 1861. | 1871. | 1881. | 1891. | 1901. |
|---|---|---|---|---|---|
| Read and write | 2,355 | 3,470 | 4,413 | 5,377 | 5,575 |
| Read only | 3,289 | 2,752 | 1,982 | 1,368 | 896 |
| Unable to read | 4,356 | 3,778 | 3,605 | 3,255 | 3,529 |

Taking the children from 10 and under 15 years, the comparison is still more satisfactory:—

| | 1861. | 1871. | 1881. | 1891. | 1901. |
|---|---|---|---|---|---|
| Read and write | 6,769 | 7,666 | 8,804 | 9,705 | 9,805 |
| Read only | 1,854 | 1,292 | 614 | 143 | 65 |
| Unable to read | 1,377 | 1,042 | 582 | 152 | 130 |

The steady decrease in the proportion of illiterate children from 1861 to 1871, and from 1871 to 1881, is plainly visible from the above tables, and the returns for 1891 and 1901 showed that this satisfactory decrease continued.

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## State Schools.

When the present Public Instruction Act came into operation on the 30th April, 1880, the Council of Education ceased to exist, and handed over to the new administration the schools which at that time were under its control. At the date mentioned there were maintained or subsidised by the Government, 1,220 schools, attended by 101,534 scholars, thus distributed :—

| | No. of Schools. | No. of Pupils. |
|---|---|---|
| Public | 705 | 68,823 |
| Provisional | 313 | 8,312. |
| Half-time | 97 | 1,683 |
| Denominational | 105 | 22,716 |
| Total | 1,220 | 101,534 |

At the close of 1882 the connection of the denominational schools with the State ceased, and the subsequent year is marked, as was to have been expected, by a considerable falling off in the number of children who were receiving their education at the expense of the State. The check only operated for a short period, as the year 1884 showed a recovery of more than the ground lost. This will be seen by the following table, which shows the enrolment and attendance of children at State-supported schools under the Public Instruction Act only :—

| Year. | Gross enrolment of distinct children. | Quarterly enrolment. | Average attendance. |
|---|---|---|---|
| 1882 | 159,490 | 134,872 | 90,944 |
| 1883 | 155,824 | 130,205 | 88,546 |
| 1884 | 167,134 | 139,159 | 95,215 |
| 1885 | 180,929 | 146,570 | 100,462 |
| 1886 | 179,990 | 153,244 | 105,538 |
| 1887 | 184,060 | 157,262 | 106,408 |
| 1888 | 186,692 | 160,919 | 112,220 |
| 1889 | 191,215 | 164,701 | 114,569 |
| 1890 | 195,241 | 170,357 | 116,665 |
| 1891 | 205,673 | 178,278 | 122,528 |
| 1892 | 210,641 | 186,207 | 132,580 |
| 1893 | 210,277 | 186,327 | 128,322 |
| 1894 | 206,265 | 181,678 | 130,089 |
| 1895 | 216,396 | 192,075 | 139,978 |
| 1896 | 221,603 | 197,025 | 142,192 |
| 1897 | 226,157 | 201,947 | 148,381 |
| 1898 | 227,561 | 203,910 | 141,723 |
| 1899 | 233,233 | 208,632 | 149,439 |
| 1900 | 238,382 | 212,713 | 153,845 |

From the time of the withdrawal of aid from denominational schools up to the end of 1900 the increase in the average quarterly enrolment at State schools was 57·7 per cent. In 1900 the proportion of the population enrolled at State schools, on the basis of the quarterly returns, was 15·7 per cent., as compared with 15·6 per cent. in 1899 ; and the proportion in average attendance, 11·4 per cent. as compared with 11·2

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per cent. in 1899. The increase in the average quarterly enrolment to the end of 1900 was as follows :—

| Year. | Per cent. | Year. | Per cent. | Year. | Per cent. |
|---|---|---|---|---|---|
| 1885 | 5·3 | 1891 | 4·6 | 1897 | 2·5 |
| 1886 | 4·6 | 1892 | 4·4 | 1898 | 1·0 |
| 1887 | 2·6 | 1893 | 0·1 | 1899 | 2·3 |
| 1888 | 2·3 | 1894 | *2·5 | 1900 | 2·0 |
| 1889 | 2·4 | 1895 | 5·7 | | |
| 1890 | 3·4 | 1896 | 2·6 | | |

* Decrease.

In the course of the year 1900, the Department received 173 applications for the establishment of schools in various parts of the state, of which 97 were granted, 57 refused, and 19 were still under consideration at the end of the year. Of the applications granted, 4 were for public schools, 76 for provisional schools, 7 for half-time schools, and 10 for evening schools.

The number of schools under the direct control of the Department during 1900 was 2,745, or 2,961 departments, thus classified :—

| | Departments. |
|---|---|
| High Schools | 4 |
| Public Schools—Superior | 263 |
| ,, Primary | 1,800 |
| Provisional Schools | 394 |
| Half-time Schools | 443 |
| House-to-house Schools | 26 |
| Evening Schools | 31 |
| Total | 2,961 |

These schools provided accommodation for 268,653 pupils, being an increase of 9,568 pupils on the number for whom accommodation was provided in the previous year. As the highest quarterly enrolment in 1900 was 214,760, it will be seen that the accommodation—which provides for 100 cubic feet of air space for each child—was more than ample. Of late years great improvements have been made in the hygienic construction of schools, and in particular the question of obtaining the maximum of light in school buildings consistent with the safety of the pupils' eyes is carefully attended to.

Below will be found a statement giving the number of State schools in the Commonwealth and New Zealand during 1900, together with the number of scholars in average attendance :—

| State. | Schools. | Teachers. | Scholars in Average Attendance. | Average Attendance of Pupils per School. |
|---|---|---|---|---|
| New South Wales | 2,745 | 5,063 | 153,845 | 56 |
| Victoria | 1,948 | 4,977 | 147,020 | 75 |
| Queensland | 932 | 2,217 | 69,285 | 74 |
| South Australia | 690 | 1,259 | 43,104 | 62 |
| Western Australia | 218 | 551 | 14,603 | 67 |
| Tasmania | 327 | 654 | 14,007 | 43 |
| Commonwealth | 6,860 | 14,721 | 441,924 | 64 |
| New Zealand | 1,674 | 3,586 | 111,747 | 79 |
| Australasia | 8,534 | 18,307 | 553,671 | 67 |

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According to an investigation made a few years ago, all children attending the public schools of the state are taught to read; 90 per cent. are instructed in writing, arithmetic, music, and drill, and receive scriptural and moral as well as object lessons; 88 per cent. in drawing; 80 per cent. write to dictation; 40 per cent. are instructed in the rules of English grammar; and 39 per cent. are taught geography and history; while over 80 per cent. of the girls receive instruction in needlework. The following table shows the number of children who reached the standard of proficiency in each of these subjects in 1900:—

| Subject. | Number of Pupils Examined. | Number of Pupils Passed. | Percentage up to or above Standard. |
|---|---|---|---|
| **Reading—All pupils** | 168,010 | 145,425 | 86 |
| In ordinary prose only | 73,311 | 65,904 | 89 |
| **Writing—All pupils** | 167,416 | 146,330 | 87 |
| On paper only | 106,679 | 94,171 | 88 |
| **Dictation** | 135,924 | 114,686 | 84 |
| **Arithmetic—All pupils** | 165,209 | 127,365 | 77 |
| Higher rules only | 26,012 | 19,273 | 74 |
| **Grammar—All pupils** | 71,470 | 54,038 | 75 |
| Advanced only | 35,263 | 26,143 | 74 |
| **Geography—All pupils** | 71,403 | 56,766 | 79 |
| Advanced only | 37,992 | 30,303 | 79 |
| **History—English** | 70,696 | 53,740 | 76 |
| Australian | 16,742 | 12,743 | 76 |
| **Scripture and Moral Lessons** | 155,354 | 128,118 | 82 |
| **Drawing** | 161,062 | 137,756 | 85 |
| **Needlework** | 58,480 | 54,184 | 92 |
| **Music** | 160,665 | 124,106 | 77 |
| **Drill** | 153,176 | 133,825 | 87 |
| **Object Lessons** | 156,086 | 127,634 | 81 |

The other subjects are only taught in the fourth and fifth classes. In 1900, 8,655 pupils were examined in Euclid, of whom 77 per cent. passed; 2,436 in algebra, of whom 78 per cent. passed; 7,806 in mensuration, of whom 74 per cent. passed; 4 in trigonometry, of whom 100 per cent. passed; 11,456 in natural science, of whom 79 per cent. passed; and 2,300 in Latin and 2,419 in French, of whom there passed respectively 76 per cent.

The State provides separately the necessary facilities for acquiring technical knowledge under a system of training about which more will be said further on.

The teachers in the public schools of the State at the end of 1900 numbered 5,063, of whom 2,755 were males, and 2,308 females. This was an increase of 179 on the number of the previous year. The average number of pupils per teacher, on the basis of the mean quarterly enrolment, was 42, and the average attendance per teacher, 30, while the average quarterly enrolment of children per school department

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was 72. The following table shows the classification of the teaching staff at the end of 1900 :—

| Grade. | Males. | Females. | Total. |
|---|---|---|---|
| Principal Teachers | 1,967 | 484 | 2,451 |
| Mistresses of Departments | ..... | 219 | 219 |
| Assistants | 324 | 817 | 1,141 |
| Students in Training Schools | 31 | 28 | 59 |
| Pupil-teachers | 418 | 675 | 1,093 |
| Work-mistresses | ..... | 76 | 76 |
| High School Teachers | 15 | 9 | 24 |
| Total | 2,755 | 2,308 | 5,063 |

The teachers obtain promotion from one class to another only after passing a series of examinations, which are so framed as to efficiently test their progress in literary attainments, and their skill in imparting knowledge. For long and meritorious service, however, a teacher may receive promotion from one section to another in the same grade. There are ten classes of public schools. In these, the salaries paid to male married teachers range from £123 to £422, inclusive of quarters valued at £20 to £72, and with a deduction of £12 from salaries not exceeding £254, where the Department provides assistance in teaching sewing. Unmarried male teachers in charge of schools receive from £91 to £350, and female teachers from £91 to £159. Teachers in half-time schools are paid at the same rates as teachers in public schools of corresponding classification. The salaries of mistresses in charge of girls' departments range from £170 to £250; and of those in charge of infants' departments, from £160 to £194. Assistant male teachers receive from £113 to £225, and assistant female teachers from £104 to £150. Ex-students of training schools acting as assistants receive £96 to £113 in the case of males, and £84 to £96 in the case of females. Ex-pupil-teachers, male or female, acting as assistants, receive £90 if they have passed their final examination, and if not, £72. The salaries of work-mistresses range from £86 to £114 ; of provisional teachers, from £72 to £88 ; of male pupil-teachers from £40 to £68 ; and of female pupil-teachers, from £24 to £46. Teachers in house-to-house schools receive £4 10s. per head of average attendance, with a maximum of £90. Itinerant teachers are granted, where necessary, a sum of £10 per annum as forage allowance, in addition to their ordinary remuneration. Special allowances may be granted to teachers stationed in remote localities, where the cost of living is high.

The supply of teachers is obtained from three sources—the two training colleges ; ex-pupil teachers who do not enter a training college ; and young persons, not less than 14 nor more than 17 years of age, who have been mostly educated in the public schools of the state, and who undergo a short course of training under qualified teachers. Few teachers

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trained outside the colony find employment under the Department. At the Fort-street Training School for males 31 students attended the course of training during the year; while at the Hurlstone Training School for female students, the number in residence was 28. At the beginning of 1895 new regulations came into force, under which the period of training in these schools was reduced from two years to twelve months, with the provision that students who obtain a certain classification at the end of the year's training shall be granted a University Scholarship for a period of twelve months, renewable for a second year under certain conditions. In 1900 the pupil-teachers in the service numbered 1,093, of whom 418 were males and 675 females. The pupil-teachers are carefully selected, and are taken on probation for three months before they are permanently employed. If approved, they have to serve a term of four years, when if they are successful in passing the necessary examinations they may enter one of the training schools.

The local supervision of the public schools is placed in the hands of School Boards appointed in the various districts of the state, under the provisions of the Public Instruction Act. These Boards are supposed to exercise a general oversight in regard to the public schools in their districts, but cannot interfere with the internal discipline or management of the schools, which remain under the direct control of the Minister of Public Instruction, through the inspectors and other officers of his department. The total number of Boards in operation at the close of 1900 was 303.

The average cost per child in average attendance at the public schools has greatly varied, as will be seen by the following table, which gives the amounts for the last ten years:—

| Year. | For school premises. | For the maintenance of schools. | For administration and training schools. | Total. |
|---|---|---|---|---|
| | £ s. d. | £ s. d. | £ s. d. | £ s. d. |
| 1891 | 1 11 3 | 4 5 0 | 0 9 4 | 6 5 7 |
| 1892 | 1 3 9 | 4 3 6 | 0 8 7 | 5 15 10 |
| 1893 | 0 17 7 | 4 5 8 | 0 8 2 | 5 11 5 |
| 1894 | 0 11 4 | 4 2 9 | 0 7 6 | 5 1 7 |
| 1895 | 0 14 11 | 3 18 9 | 0 6 7 | 5 0 3 |
| 1896 | 0 8 0 | 3 17 3 | 0 6 4 | 4 11 7 |
| 1897 | 0 11 5 | 3 15 6 | 0 6 4 | 4 13 3 |
| 1898 | 0 14 10 | 4 1 8 | 0 6 6 | 5 3 0 |
| 1899 | 0 12 2 | 4 0 0 | 0 6 5 | 4 18 7 |
| 1900 | 0 14 10 | 3 19 11 | 0 6 8 | 5 1 5 |

In considering the question of the expenditure on education in New South Wales during past years, it should be borne in mind that the expenses contingent upon the necessity of obtaining efficient results in a country

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of such a vast extent and so sparsely populated were unavoidably great: School-houses had to be built, teachers required training, and the whole educational machinery had to be provided in many parts of the country where there was, perhaps, only a denominational school, or, just as likely, no educational establishment at all. To these initial expenses was due, in a great measure, the relatively high cost of public education in the first few years after the passing of the Act of 1880. In 1883, for instance, the total cost per child in average attendance was not less than £9 5s. 7d. In 1888 this had been reduced to £5 6s. 5d., and since that year there has been a further decrease to £5 1s. 5d. It may be expected that the cost will not at any time greatly exceed the present figures, as the school-houses have been built with due regard to the increase in the number of scholars which must be anticipated in a young, promising, and growing State. Most of the school-buildings, too, are of a character that would do credit to the most advanced countries of the world, the greatest care having been taken to embody all the improvements which the experience of centuries has suggested in older communities.

The following figures, showing the gross cost of each child in average attendance at the public schools of the Commonwealth and New Zealand in 1900, exclusive of the expenditure on buildings, disclose the fact that in New South Wales the cost is less than in Western Australia and Victoria:—

| | Cost per child in average attendance. |
|---|---|
| New South Wales | £4 6 7 |
| Victoria | 4 12 2 |
| Queensland | 3 14 1 |
| South Australia | 3 9 3 |
| Western Australia | 5 1 10 |
| Tasmania | 3 2 8 |
| New Zealand | 3 0 6 |

It is satisfactory to note that the average cost is lower than in Victoria, especially when it is borne in mind that the smaller extent of the territory of the latter state, and the greater travelling facilities offered by a railway system proportionately much larger, must necessarily reduce the cost of education. In South Australia settlement is confined to certain districts in which the population is more compact, whilst the whole of the territory of New South Wales, if the extreme west be excepted, may be regarded as everywhere settled—at least, to such an extent as to necessitate the extension of the public school system throughout the greater part of the state. But the spread of public instruction is considered so pre-eminently important an object that the Legislature has at all times expressed its readiness to make every sacrifice and to spare no expense to render efficacious the system of national education which it adopted in 1880.

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**The following table shows the gross expenditure by the State on primary education during the ten years ended 1900, and the annual amount per head of population :—**

| Year. | Total Amount. | Per head of population. | Year. | Total Amount. | Per head of population. |
|---|---|---|---|---|---|
| | £ | s. d. | | £ | s. d. |
| 1891 | 769,565 | 13 6 | 1896 | 651,307 | 10 3 |
| 1892 | 768,395 | 13 1 | 1897 | 692,395 | 10 9 |
| 1893 | 715,219 | 11 11 | 1898 | 729,922 | 11 1 |
| 1894 | 661,055 | 10 9 | 1899 | 737,080 | 11 1 |
| 1895 | 701,827 | 11 3 | 1900 | 780,216 | 11 6 |

**A division of this expenditure under the two heads of "School Premises" and "Maintenance and Administration" is shown below, and the deduction of the school fees received gives the net cost to the State during each of the ten years in question :—**

| Year. | Number of Schools. | Gross enrolment of distinct Pupils. | Expenditure on school premises. | Expenditure on maintenance of Schools, including Administration, &c. | Total Expenditure. | School Fees. | Net State Expenditure. |
|---|---|---|---|---|---|---|---|
| | | | £ | £ | £ | £ | £ |
| 1891 | 2,457 | 205,673 | 191,374 | 578,191 | 769,565 | 75,913 | 693,652 |
| 1892 | 2,502 | 210,641 | 157,679 | 610,716 | 768,395 | 77,525 | 690,870 |
| 1893 | 2,529 | 210,277 | 112,855 | 602,364 | 715,219 | 73,268 | 641,951 |
| 1894 | 2,506 | 206,265 | 73,792 | 587,263 | 661,055 | 70,693 | 590,362 |
| 1895 | 2,563 | 216,396 | 104,397 | 597,430 | 701,827 | 73,320 | 628,507 |
| 1896 | 2,574 | 221,603 | 56,752 | 594,555 | 651,307 | 74,866 | 576,441 |
| 1897 | 2,577 | 226,157 | 84,999 | 607,486 | 692,395 | 73,684 | 618,711 |
| 1898 | 2,602 | 227,561 | 105,054 | 624,868 | 729,922 | 73,093 | 656,829 |
| 1899 | 2,693 | 233,233 | 90,926 | 646,154 | 737,080 | 78,358 | 658,722 |
| 1900 | 2,745 | 238,382 | 114,279 | 665,937 | 780,216 | 82,494 | 697,722 |

**It will be seen that the amount directly contributed by parents towards their children's education is but a small proportion of the total cost. In 1900 the contributions of the parents came to £82,494, the**



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largest sum received during any year shown in the table. The following statement shows the gross and net cost to the State of each child in average attendance:—

| Year. | Gross Expenditure. | Amount of Fees received. | Net Cost to State. |
|---|---|---|---|
| | £ s. d. | £ s. d. | £ s. d. |
| 1891 | 6 5 7 | 0 12 5 | 5 13 2 |
| 1892 | 5 15 10 | 0 11 8 | 5 4 2 |
| 1893 | 5 11 5 | 0 11 5 | 5 0 0 |
| 1894 | 5 1 7 | 0 10 10 | 4 10 9 |
| 1895 | 5 0 3 | 0 10 6 | 4 9 9 |
| 1896 | 4 11 7 | 0 10 6 | 4 1 1 |
| 1897 | 4 13 3 | 0 9 11 | 4 3 4 |
| 1898 | 5 3 0 | 0 10 3 | 4 12 8 |
| 1899 | 4 18 8 | 0 10 6 | 4 8 2 |
| 1900 | 5 1 5 | 0 10 9 | 4 10 8 |

During the year 1900 free education was granted to 33,053 pupils, equal to a percentage of 13·9 of the gross enrolment of distinct children. It was explained by the Minister in his Annual Report that debts to the amount of £1,200 were cancelled during the year.

In accordance with a design long contemplated, savings' banks were opened during 1887 in connection with the public schools of the state. At the close of 1900 there were 643 banks in operation, as compared with 633 at the close of 1899. The deposits for the year amounted to £17,204, and the sum withdrawn was £16,793. The total amount to the credit of the school banks on the 31st December, 1900, was £9,524, as compared with £9,113 at the end of 1899, and £8,104 at the end of 1898. Since 1887 the total sum deposited amounted to £172,987, while the withdrawals were £163,463. Of the latter sum an amount of £46,860 was withdrawn for the purpose of being placed to the credit of children's accounts in the Government Savings Bank. The object aimed at in establishing these banks is to inculcate practically the principles of economy while yet the minds of the children are susceptible of deep impressions. A systematic training for this purpose is a thing to be desired in every public school, in order to engender habits of thrift amongst the children, to indoctrinate them as to the uses and effects of money that are ulterior to immediate gratifications, and to make them recognise and calculate upon poverty and degradation as the natural results of waste and improvidence.

### Private Schools.

The attendance at private schools greatly increased after the withdrawal of aid from the denominational schools which had been under the control of the Education Department. Many of these establishments

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ceased to exist immediately on the withdrawal of State aid, and the children by whom they had been attended were transferred for the most part to the ordinary public schools of the State. Some of the schools, however, were still maintained, chiefly those connected with the Roman Catholic Church, and thenceforth appear in the returns as private schools.

Below will be found a statement showing the number of private schools in the state during each of the ten years 1891 to 1900, with the teaching staff and number of scholars enrolled :—

| Year. | Schools. | Teachers. | Scholars. | Year. | Schools. | Teachers. | Scholars. |
|---|---|---|---|---|---|---|---|
| 1891 | 704 | 2,601 | 45,018 | 1896 | 893 | 3,087 | 53,967 |
| 1892 | 719 | 2,717 | 45,747 | 1897 | 948 | 3,162 | 56,143 |
| 1893 | 782 | 2,778 | 45,401 | 1898 | 956 | 3,269 | 58,179 |
| 1894 | 863 | 2,966 | 51,016 | 1899 | 1,053 | 3,407 | 60,159 |
| 1895 | 884 | 2,945 | 51,651 | 1900 | 912 | 3,352 | 60,327 |

There is no doubt that many of these private institutions are capably managed and the instruction given is of a high order, but on the other hand there are numerous schools in charge of persons whose knowledge and ability to teach are equally meagre. The remedy for this would be for the state to insist on a certain standard of education being observed, such as prevails in the public schools, while making it obligatory on teachers to furnish proof of possessing the requisite knowledge and ability to impart instruction.

The 912 schools open during 1900 may be divided into the following classes :—

| Classification. | Schools. | Teachers. | Scholars. |
|---|---|---|---|
| Undenominational ..... | 523 | 1,343 | 14,767 |
| Roman Catholic ..... | 325 | 1,617 | 40,136 |
| Church of England ..... | 55 | 295 | 4,158 |
| Presbyterian ..... | 3 | 41 | 228 |
| Wesleyan ..... | 2 | 36 | 275 |
| Lutheran ..... | 1 | 1 | 56 |
| Hebrew ..... | 1 | 6 | 527 |
| Seventh Day Adventist ... | 2 | 13 | 180 |
| Total ..... | 912 | 3,352 | 60,327 |

Not a few of the schools returned as undenominational are religious schools, though no definite form of religious opinions is inculcated therein. Of distinctly religious schools, those of the Roman Catholic Church comprise the great majority numbering 83·5 per cent. of professedly

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denominational schools, and including 88·1 per cent. of the scholars educated therein. On the withdrawal of State assistance from denominational schools in 1882, there were in operation under the Department of Education, 75 Roman Catholic Schools, attended by 16,595 pupils; while there were also some unassisted schools connected with this Church, of which statistics were not available. In 1891 the number of schools had increased to 250, with an enrolment of 30,691 pupils; while in 1900 the number had grown to 325, with an enrolment of 40,136. The table given below shows that during the last ten years the record is one of continuous progress:—

| Year. | Schools. | Teachers. | Scholars on Roll. | | | Average Attendance. | | |
|---|---|---|---|---|---|---|---|---|
| | | | Males. | Females. | Total. | Males. | Females. | Total. |
| 1891 | 250 | 1,242 | 13,637 | 16,854 | 30,691 | 10,547 | 13,241 | 23,788 |
| 1892 | 243 | 1,268 | 13,973 | 17,244 | 31,217 | 10,820 | 13,292 | 24,112 |
| 1893 | 259 | 1,359 | 14,439 | 16,860 | 31,299 | 10,911 | 12,838 | 23,749 |
| 1894 | 285 | 1,453 | 16,044 | 19,106 | 35,150 | 12,352 | 14,813 | 27,165 |
| 1895 | 288 | 1,409 | 15,999 | 19,251 | 35,250 | 12,420 | 15,033 | 27,453 |
| 1896 | 293 | 1,527 | 16,603 | 19,949 | 36,552 | 12,967 | 16,004 | 28,971 |
| 1897 | 296 | 1,481 | 16,494 | 20,181 | 36,675 | 12,954 | 16,208 | 29,162 |
| 1898 | 312 | 1,573 | 17,236 | 21,227 | 38,463 | 13,214 | 16,550 | 29,764 |
| 1899 | 318 | 1,613 | 17,785 | 21,864 | 39,649 | 13,758 | 17,265 | 31,023 |
| 1900 | 325 | 1,617 | 17,887 | 22,249 | 40,136 | 13,988 | 17,571 | 31,559 |

The Church of England is the only other religious body maintaining a considerable number of schools. During 1900 the schools connected with this church numbered 55, and were attended by 4,158 pupils. At the end of 1882 there were in existence 42 Church of England Schools, with an enrolment of 11,927 children. The following table gives particulars of these schools during the past ten years:—

| Year. | Schools. | Teachers. | Scholars on Roll. | | | Average Attendance. | | |
|---|---|---|---|---|---|---|---|---|
| | | | Males. | Females. | Total. | Males. | Females. | Total. |
| 1891 | 47 | 185 | 1,917 | 1,417 | 3,334 | 1,475 | 1,037 | 2,512 |
| 1892 | 48 | 188 | 1,749 | 1,472 | 3,221 | 1,388 | 1,125 | 2,513 |
| 1893 | 47 | 178 | 1,504 | 1,334 | 2,838 | 1,204 | 932 | 2,136 |
| 1894 | 62 | 246 | 1,852 | 1,623 | 3,475 | 1,445 | 1,237 | 2,682 |
| 1895 | 50 | 204 | 1,614 | 1,421 | 3,035 | 1,299 | 1,084 | 2,383 |
| 1896 | 44 | 185 | 1,581 | 1,518 | 3,099 | 1,025 | 1,151 | 2,176 |
| 1897 | 50 | 228 | 1,910 | 1,975 | 3,885 | 1,459 | 1,500 | 2,959 |
| 1898 | 57 | 280 | 2,082 | 2,248 | 4,330 | 1,611 | 1,630 | 3,241 |
| 1899 | 59 | 299 | 2,072 | 2,173 | 4,245 | 1,583 | 1,671 | 3,254 |
| 1900 | 55 | 295 | 1,967 | 2,191 | 4,158 | 1,496 | 1,706 | 3,202 |

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## Higher Education.

It has already been mentioned that the State has made provision for higher education by the establishment of High Schools in the metropolis and the principal centres of population. The curriculum of these schools is of such a character as to enable students to complete the course of instruction the basis of which they acquired in the Public Schools, and, if they so wish, to prepare themselves for the University examinations. Admission to these schools is by examination only. There were at the close of the year 1900 two High Schools for boys and two for girls. The gross enrolment for that year was 340 boys and 322 girls, making a total of 662 pupils, as against 606 for 1899. The average daily attendance in 1900 was 476 as against 436 for the preceding year. Judging by the comparative results obtained at the University Examinations during recent years, the Fort-street Model School seems to be competing strongly with these schools as a stepping-stone to the University. During 1900, 75 pupils from the High Schools passed the junior, 11 the senior, and 41 the matriculation examinations at the University, 22 of the matriculants qualifying at the junior, and 8 at the senior examinations.

Superior Public Schools, in which the subjects taught embrace, in addition to the ordinary course prescribed for Public Schools, such other subjects as will enable the students to compete at the senior and junior public examinations, are also established. There were 107 of these schools in existence at the end of 1900, with an enrolment of 77,160 pupils. It is important to recollect that these figures do not show the number of children receiving higher education. The results of the University public examinations for 1900 show that 1 senior and 156 junior passes were obtained by Public School pupils. Of these the senior pass and 54 junior certificates were gained by the Fort-street Model School. It is interesting to note that, out of the total passes of all candidates from New South Wales at the junior examination in 1900, nearly 30 per cent. were obtained by scholars attending the Public Schools.

A system of scholarships and bursaries for boys and girls at State schools has been brought into operation. Twenty of each—ten for each sex—are available for education at State Superior, High, or Grammar Schools; and six bursaries for boys and four for girls are tenable at the University. The former are awarded half-yearly, and the latter at the March matriculation examinations, to the most proficient pupils, in cases where the parents are unable to defray the expense of the pupil's education. Seven candidates from the High Schools—4 boys and 3 girls—and 2 boys and 1 girl from Fort-street Model School were successful in obtaining bursaries at the University matriculation in 1900. For other State scholarships and bursaries 95 candidates were successful; 25 boys and

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25 girls obtained scholarships for High Schools and Superior Schools; 22 boys and 20 girls obtained bursaries for High and Superior Schools; and 3 boys obtained bursaries for the Sydney Grammar School.

In addition to the various classes of Public Schools already mentioned, there exist several institutions of an educational character which receive an annual subsidy from the Government. The most important of these is the Sydney Grammar School, which is one of the principal schools of the state. In 1900 the mean quarterly enrolment was 515, and the average attendance 489. This school receives an annual endowment from the State of £1,500. In 1900 the other revenue, derived from school fees and other sources, amounted to £8,858. The total expenditure for the year was £11,839, of which salaries and allowances absorbed £8,504.

## The University.

In the year 1849 Mr. Wentworth presented a petition to the mixed Legislative Council from certain shareholders of a proprietary school, known as Sydney College, praying for the appointment of a select committee of the House "to consider the best means of carrying on the institution so as to afford the youth of the colony the means of obtaining instruction in the higher branches of literature and science." The committee was appointed, but it received somewhat different instructions, being directed to "consider and report how best to institute a university for the promotion of literature and science, to be endowed at the public expense." The committee, after a few weeks' deliberation, brought up its report, recommending the establishment of a university with a permanent endowment of £5,000 per annum out of the general revenue, and a bill was brought in by Mr. Wentworth in accordance with the report. The Council was shortly afterwards prorogued, and the measure consequently lapsed for that session. In 1850 the bill, which was based mainly on the charter of University College, London, was re-introduced by Mr. Wentworth, and, after some discussion and a few amendments, was passed, receiving the Royal assent on the 1st October of that year.

The endowment was given for "defraying the stipends of teachers in literature, science, and art," and for administration purposes, there being no provision made for teaching any other branch. Power was, however, given to examine and to grant degrees after examination in law and medicine as well as in arts. The University was to be strictly undenominational, and the Act expressly prohibited any religious test for admission to studentship or to any office or for participation in any of its advantages or privileges. Residence was not contemplated otherwise than in affiliated colleges, but authority was given to license tutors and masters of boarding-houses with whom students of the University might live.

A Senate of sixteen Fellows was constituted by the original Act to govern the University, and it was empowered to elect from among

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its members its own Provost and Vice-Provost, which titles were later on changed to those of Chancellor and Vice-Chancellor. The Fellows were, in the first instance, nominated by the Crown, but were to be replaced, as vacancies arose, by the Fellows themselves until there should be 100 graduates holding the degree of Master in Arts or of Doctor in Law or Medicine. The first Senate commenced its labours at the close of the year 1850, with Mr. Edward Hamilton, M.A., as Provost, and Sir Charles Nicholson, M.D., as Vice-Provost. It shortly established three chairs in Classics, Mathematics, and Chemistry and Experimental Physics, and sent to England for competent professors to fill them; and on the 11th October, 1852, the University was opened with an imposing ceremony, in presence of the Governor and principal officers, and under the presidency of Sir Charles Nicholson, and twenty-four matriculated students were admitted to membership.

In 1858 a royal charter was granted, which declares that "the degrees of this University in arts, law, and medicine shall be recognised as academical distinctions of merit, and be entitled to rank, precedence, and consideration in the United Kingdom as fully as if the said degrees had been granted in any university of the United Kingdom."

Since the passing of the original Act various amendments have been made, of which the principal are as follow :—By an Act passed in 1857, those who had taken the degree of B.A. or M.A. received certain privileges in respect of admission to the Bar or to the Roll of Solicitors. In 1861 it was directed that, in addition to the ordinary sixteen Fellows, there should be not fewer than three nor more than six *ex-officio* members of the Senate who should be Professors in such branches of learning as the Senate should by any by-law select ; and such Professors and other Public Teachers and examiners and every superior officer declared to be such by the by-laws should be a member of the University, with the same rights and privileges in respect to the election of new Fellows as were enjoyed by persons holding the degrees of M.A., LL.D., and M.D. In 1881 *ad eundem* degrees, with equal privileges, were authorised to be conferred; and Bachelors of Arts of three years standing were empowered to vote at new elections of Fellows. In 1884 the Senate's powers as regards teaching and degrees were extended by enabling it to give instruction and grant degrees or certificates in all branches of knowledge with the exception of Theology or Divinity, subject to a proviso that no student should be compelled to attend lectures or to pass examinations in Ethics, Metaphysics, or Modern History ; and by the same Act it was directed, in accordance with a previous by-law of the Senate, that the benefits and advantages of the University should extend in all respects to women equally with men.

The number of persons entitled to vote at the elections of new Fellows reached 100 in 1872, whereupon the Senate passed by-laws in respect of such elections, and styled the electoral body "Convocation." This body, including the additions made by the several amending Acts,

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and the heads of affiliated colleges, who had been declared to be superior officers of the University under the Act of 1861, now numbers upwards of 1,000.

The public endowment of the University stood at £5,000 per annum until 1880, when £1,000 was added for assistant lectureships; but in 1877 a bequest of the value of £6,000, producing about £300 a year, was made by Mrs. Hovell, widow of the explorer of that name, for instruction in Geology and Physical Geography; and this sum, together with fees, enabled the Senate to divide the Chair of Chemistry and Experimental Physics into two, to the first of which Geology and Physical Geography were attached. In 1882 a further sum of £5,000 was voted to enable the Senate to establish Schools of Medicine and Engineering, and to give some further help to the original Department of Arts. Medical and Engineering Professors and Lecturers, a Professor of Natural History, and some small lectureships in Arts were created; but this sum was soon found inadequate for the intended purposes, and was increased to £7,900, inclusive of the £1,000 granted in 1880. Allowances were also made for apparatus, and a sum of £2,000 per annum granted for evening classes in Arts. In 1893 the Government endowment amounted to £13,000, and the special grants to £5,695. Since that year the State aid has been largely reduced, and in 1900 the Endowment was £10,250, while the special grants totalled £2,300. Principally out of the endowment for Evening Classes, a system of Extension Lectures to non-matriculants was commenced in 1886, first in the metropolis, and afterwards in the country districts; later on it was extended to the neighbouring colony of Queensland. It is not improbable that as time goes on these lectures will become a very prominent feature in the work of the University.

In 1855 the present site was granted by Governor Sir Charles Fitzroy, by Royal authority, for the erection of suitable buildings, and also to provide land for the prospective erection of four denominational Colleges. It comprised about 126 acres, formerly known as Grose Farm, to which a further grant of 9 acres was afterwards added for the enlargement of the domain or park. Before this grant was made the work of the University had been carried on in the old Sydney College, which, together with its library and even an endowment for a Scholarship bequeathed by Mr. Solomon Levy, was purchased by the Government for the University, and a grant of £50,000 was made by Parliament in 1853 as a building fund. As early as 1854 an Act was passed to aid and partly endow four colleges within the University. A contribution of not less than £10,000, and not more than £20,000, was to be made from the general revenue for building funds, provided that an equal sum was subscribed by private individuals, and £500 a year was to be paid annually by the Government towards the stipend of the Principal of each College. Just before this, steps had been taken to establish the St. Paul's Church of England College; the St. John's Roman Catholic College followed in 1857, and the Presbyterian

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College of St. Andrew in 1867. In 1900 the number of students in St. Paul's College was 20; in St. John's, 17; and in St. Andrew's, 32. The Wesleyan body, for whom an equal area had been set apart, declined to accept it, and in 1873 some 12 acres of the land originally intended for a site for their college were resumed by the Crown and dedicated to the Prince Alfred Hospital; and provision was made for the establishment by the University of a Medical School in connection with the Hospital, and for joint control by the University Senate and the Hospital Board in respect to all appointments to the medical and surgical staff of the Hospital. But while the regulations under which students have access to the Hospital are framed by the Hospital Board, with the Senate alone rests the appointment of Professors and Lecturers in the Medical School.

The Women's College—a college within the University of Sydney—was opened in March, 1892. It was established for the purpose of affording residence and domestic supervision to women students of the University, with efficient tutorial assistance in their preparation for the University lectures and examinations. In order that full effect might be given to a principle affirmed in the "University Extension Act of 1884," it was necessary that a college for women should be brought into existence, it having been enacted in this measure that "the benefits and advantages of the University and the provisions of the Acts relating thereto shall be deemed to extend in all respects to women equally with men." The college is strictly undenominational—the Act of Incorporation providing that no religious catechism or formulary which is distinctive of any particular denomination shall be taught, and that no attempt shall be made to attach students to any particular denomination. When the college was opened in a house at Glebe Point, leased until the permanent buildings were completed, the students numbered 4. The present buildings were opened in the early part of 1894, and at the close of that year there were 8 students, while in 1900 there were 17. There is, however, accommodation for 26 resident students. The Government granted £5,000 towards the erection of buildings, but affords no endowment to the college, though it pays the salary of the Principal.

Many donations have been made to the University for the use and reward of students. Among the first were gifts of £1,000 each from Mr. Thomas Barker, Sir Daniel Cooper, and Sir Edward Deas-Thomson, represented by lands which are now of twice that value. Many others followed, and about £60,000 has been presented up to the present date, exclusive of prizes which have been exhausted by award, and irrespective of increases in value. Besides the above, a sum of £30,000 was left by the late Mr. Thomas Fisher for a library, and £6,000 was given by the late Sir William Macleay for a Curatorship of the Natural History Museum, presented by him to the University, and for which the Government have erected a suitable building. There have also been bequests of property other than money to the estimated value of £51,000 up to the present time.

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Above all, the late Mr. John Henry Challis left his residuary estate to the University, subject to certain annuities. In December, 1890, the trustees handed over to the University the major part of the Australian portion of the estate, consisting of £199,362 in investments, together with a cash balance. In addition to the above amount the trustees of the estate in England still retain a sum of about £30,000 set apart for payment of annuities. This sum will ultimately accrue to the funds of the University. Under this bequest the Senate have created new Chairs in Law, Modern Literature, History, Logic and Mental Philosophy, Anatomy, Engineering, and Biology, to which they have given the testator's name. The Hovell and Challis bequests constituted, until the end of 1894, the only resources of the University for actual education other than the public endowments. During 1896 Mr. P. N. Russell, of London (formerly of Sydney), devoted £50,000 to the purpose of endowing a School of Engineering.

The teaching-staff, now that all the Challis Chairs are filled, consists of fourteen Professors, twenty-seven Lecturers, and nine Demonstrators. The subjects over which Professors preside are Greek, Latin, Mathematics, Chemistry, Physics, Geology and Physical Geography, Physiology, Anatomy, Engineering, Modern Literature, Logic and Mental Philosophy, Biology, Law, and History. The Lecturers deal with Geology and Physical Geography, Metallurgy, Latin, Modern Literature, Mathematics, Architecture, Surveying, Mining, Mechanical Engineering and Drawing, Principles and Practice of Medicine, Principles and Practice of Surgery, Midwifery, Diseases of Women, Materia Medica and Therapeutics, Pathology, Medical Jurisprudence and Public Health, Clinical Medicine, Clinical Surgery, Psychological Medicine, Ophthalmic Medicine and Surgery, Equity, Probate, Bankruptcy, and Company Law, Law of Procedure (including Evidence and Pleading), Law of Status, Civil Obligations, and Crimes. There are also Tutors in Medicine and Surgery, and a Tutor to the female students. The Demonstrators are appointed in Chemistry, Physiology, Anatomy, Biology, Geology and Physical Geography, and Physics.

From the foundation of the University to the end of 1900, 1,869 degrees of various kinds have been conferred, the highest number bestowed in any one year being 123 in 1894. The degrees conferred include 273 M.A., 1,030 B.A., 23 LL.D., 85 LL.B., 38 M.D., 192 M.B., 126 Masters of Surgery, 34 B.Sc., 3 Masters of Engineering, and 65 Bachelors of Engineering. During 1900 the degrees conferred (including *ad eundem*) were M.A. 4, B.A. 42, LL.B. 7, M.B. 36, Ch.M. 14, B.Sc. 2, B.E. 9. The number of matriculated students increased from 34 in 1876 to 530 in 1900.

Examinations, corresponding to the middle-class examinations of the English Universities, are held every year. These examinations have proved highly popular, attracting no less than 2,305 candidates in 1892, of whom 173 were seniors, and 2,132 juniors. Since that year, however, the number of candidates has greatly fallen off; and now that the

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Public Service Board has instituted competitive examinations for appointments to the public service, there has been a further decrease.

| Year. | Students attending Lectures. | Matriculated students. | Attending extension Lectures. | Public Examinations. | | | |
|---|---|---|---|---|---|---|---|
| | | | | Number of Seniors. | | Number of Juniors. | |
| | | | | Examined. | Passed. | Examined. | Passed. |
| 1876 | 58 | 34 | ... | 53 | 40 | 356 | 212 |
| 1877 | 61 | 23 | ... | 63 | 38 | 303 | 135 |
| 1878 | 62 | 24 | ... | 58 | 41 | 364 | 243 |
| 1879 | 83 | 58 | ... | 76 | 64 | 333 | 247 |
| 1880 | 76 | 64 | ... | 66 | 54 | 381 | 209 |
| 1881 | 81 | 80 | ... | 48 | 36 | 392 | 231 |
| 1882 | 97 | 101 | ... | 57 | 43 | 398 | 240 |
| 1883 | 128 | 85 | ... | 57 | 36 | 473 | 299 |
| 1884 | 203 | 142 | ... | 65 | 48 | 563 | 379 |
| 1885 | 206 | 115 | ... | 84 | 73 | 645 | 440 |
| 1886 | 203 | 122 | 137 | 107 | 83 | 858 | 548 |
| 1887 | 215 | 132 | 329 | 125 | 87 | 834 | 562 |
| 1888 | 250 | 130 | 403 | 141 | 110 | 834 | 538 |
| 1889 | 275 | 210 | 327 | 115 | 90 | 1,085 | 706 |
| 1890 | 409 | 301 | 447 | 129 | 101 | 1,172 | 798 |
| 1891 | 532 | 478 | 298 | 143 | 110 | 1,729 | 1,191 |
| 1892 | 598 | 540 | 528 | 173 | 134 | 2,132 | 1,467 |
| 1893 | 586 | 539 | 514 | 176 | 127 | 1,853 | 921 |
| 1894 | 592 | 522 | 934 | 137 | 103 | 1,494 | 824 |
| 1895 | 506 | 487 | 727 | 142 | 112 | 1,398 | 847 |
| 1896 | 454 | 438 | 396 | 142 | 108 | 1,481 | 965 |
| 1897 | 455 | 424 | 376 | 119 | 101 | 1,471 | 859 |
| 1898 | 465 | 434 | * | 110 | 96 | 1,079 | 698 |
| 1899 | 519 | 482 | 427 | 123 | 106 | 1,091 | 752 |
| 1900 | 583 | 530 | 641 | 108 | 85 | 980 | 641 |

* Lectures not given in New South Wales during 1898.

Examinations for the admission of articled clerks were instituted in 1877, in compliance with a rule of the Supreme Court, and in 1900 there were 23 successful candidates.

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Below is given a statement showing the amount derived by the University from each of the principal sources of revenue from 1876, with the total expenditure during each year :—

| Year. | Receipts. | | | | | Expenditure. |
|---|---|---|---|---|---|---|
| | Government aid. | | Lecture fees. | Other sources. | Total. | |
| | Endowment. | Grants for apparatus or other special purposes. | | | | |
| | £ | £ | £ | £ | £ | £ |
| 1876 | 5,000 | ..... | 403 | 100 | 5,503 | 5,877 |
| 1877 | 5,000 | ..... | 334 | 100 | 5,434 | 5,434 |
| 1878 | 5,000 | 1,168 | 324 | 100 | 6,592 | 7,748 |
| 1879 | 5,000 | 114 | 476 | 100 | 5,690 | 5,746 |
| 1880 | 5,000 | 1,500 | 457 | 100 | 7,057 | 6,795 |
| 1881 | 5,000 | 1,000 | 706 | 100 | 6,806 | 6,227 |
| 1882 | 10,000 | 2,964 | 1,080 | 100 | 14,144 | 10,614 |
| 1883 | 12,000 | 2,343 | 1,266 | 120 | 15,729 | 15,381 |
| 1884 | 12,000 | 3,500 | 2,207 | 170 | 17,877 | 16,198 |
| 1885 | 12,000 | 4,500 | 2,479 | 385 | 19,364 | 20,094 |
| 1886 | 12,000 | 5,500 | 2,600 | 323 | 20,423 | 20,765 |
| 1887 | 12,000 | 4,918 | 2,819 | 308 | 20,045 | 20,811 |
| 1888 | 12,000 | 7,099 | 3,022 | 385 | 22,506 | 21,867 |
| 1889 | 12,000 | 6,800 | 5,667 | 807 | 25,274 | 28,030 |
| 1890 | 13,900 | 4,734 | 5,385 | 293 | 24,312 | 26,075 |
| 1891 | 13,900 | 4,400 | 7,262 | 11,694 | 37,256 | 36,649 |
| 1892 | 13,900 | 4,200 | 7,647 | 11,843 | 37,590 | 40,083 |
| 1893 | 13,000 | 5,695 | 7,912 | 11,921 | 38,528 | 39,769 |
| 1894 | 11,000 | 2,200 | 7,700 | 12,590 | 33,490 | 33,539 |
| 1895 | 9,500 | 2,000 | 8,445 | 11,462 | 31,407 | 31,651 |
| 1896 | 9,000 | 2,400 | 8,171 | 11,923 | 31,494 | 31,557 |
| 1897 | 9,000 | 2,000 | 7,899 | 13,125 | 32,024 | 32,787 |
| 1898 | 9,000 | 2,200 | 7,379 | 13,984 | 32,563 | 32,869 |
| 1899 | 9,000 | 2,267 | 8,591 | 14,609 | 34,467 | 34,132 |
| 1900 | 9,000 | 3,583 | 9,836 | 14,336 | 36,755 | 34,769 |

An extensive addition to the University's magnificent buildings has been made for the use of the School of Medicine. It provides the most complete accommodation for students desiring to follow the profession of medicine and surgery; and the Prince Alfred Hospital, erected, as before stated, on the University grant, affords them the necessary means of study. During the year 1900 there were 193 undergraduates, of whom 14 were ladies, in the Medical School. This branch of the University was established in 1883, when there was an enrolment of 4 students. A laboratory for the Department of Physics has also been erected, and is replete with every means of illustrating the teaching of physical science. In March, 1890, a Department of Chemistry and its adjuncts were opened. The accommodation provided includes lecture halls and four laboratories, besides other facilities. One of the laboratories is used in connection with the School of Mines, which was opened early in 1895 for the purpose of imparting instruction in geology (including physical geography and palæontology), mineralogy, and practical mining work. The buildings for the School of Mines cost upwards of £4,000, and more than £1,500 was

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expended on fittings. In the various branches of the Department of Engineering there was an enrolment of 92 students during the year.

A School of Dentistry was also established in 1901. The course of instruction, which extends over a period of three years, aims at giving a thorough insight into the surgical and mechanical divisions of the profession. Intending students must have passed the ordinary University matriculation examination or its equivalent before being admitted to the College.

### Denominational High Schools and Colleges.

All the principal religious bodies provide high schools and colleges where students may be educated according to the precepts of their various beliefs, and prepared to compete for University honours or the various professions which they may adopt. Evidence of the progress of superior denominational education in the state may be seen in the magnificent college buildings which surround the city, among which may be cited Newington College, the colleges of the Marist Brothers and the Jesuit Fathers at Hunter's Hill and Riverview, the old-established King's School at Parramatta, the North Sydney Church of England Grammar School, the Scots' College, the Presbyterian Ladies' College at Croydon, and a host of other first-class establishments erected under the patronage of the various religious bodies.

### Technical Education.

Public attention was so strongly directed, in the years which followed the great world exhibition of 1851, to the necessity of providing the artisan classes, and the people generally, with the means of obtaining a scientific knowledge of the various handicrafts, that technical schools sprang up in various parts of England, some being under the direct patronage of the State, while others were founded by the wealthy trade societies or guilds of the great English cities. The excellent results following the establishment of these schools could not fail to attract attention in these states, where a sound and practical knowledge of the manual arts is of paramount necessity. The foundation of the New South Wales Technical School was due in great measure to the efforts of a few gentlemen connected with the Sydney Mechanics' School of Arts, and as far back as 1873 it was decided to establish a Technical College affiliated to that institution, with the object of improving the scientific knowledge of Australian artisans. In the year 1878 a sum of £2,000 was granted by Parliament towards the organisation of a Technical College, and for five years the work of the institution was carried on in connection with the School of Arts. In 1883, however, a board was appointed by the Government to take over its management, and the Technical College became thenceforth a State institution. Towards the end of 1889 the Board was dissolved, and the Technical College came under the direct control of the Minister of Public Instruction. The institution is now well established, and its work is already being felt and appreciated, whilst the future gives every promise of still greater

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usefulness. The College is housed in a fine building specially erected by the Government at Ultimo, Sydney, and was opened for the reception of students in January, 1892. Besides being provided with workshops containing the necessary machinery, tools, and apparatus, the College possesses an excellent museum, open to the public as well as to students.

The course of instruction, under the present constitution of the College, comprises classes in agriculture, art, architecture, carpentry, &c., chemistry, cookery, geology and mineralogy, iron founding, mechanical engineering, physics, sanitary engineering, electrical engineering, lithography and photo-lithography, mine surveying, metalliferous mining, wood and stone carving, and wool sorting and other training in connection with sheep and wool; and these classes are subdivided as may be warranted by circumstances.

The College is open to both male and female students, and in 1900 there were 271 classes in operation, of which 115 were in Sydney and suburbs, 131 in various country towns, and 25 in connection with public schools. The teaching staff consisted of 12 lecturers in charge of departments, 7 resident masters in charge of branch schools, 56 teachers, 20 assistant teachers, and 29 teachers remunerated by fees only. The enrolment of students amounted to 11,159 in all, 6,622 of whom were in Sydney and suburbs, and 2,953 in the country, while 1,584 represented the enrolment of scholars from public schools. The number of individual students was 8,625, being an increase of 978 as compared with the number for 1899. The average weekly attendance was 7,495. At the annual examinations 4,292 students presented themselves, of whom 3,339 passed—a proportion of 78 per cent. Technical College buildings were opened at Newcastle in February, 1896; at Bathurst in June, 1898, and at Albury in 1899. A new building is in course of erection for a Technical College at Goulburn.

In 1900 the State expenditure on technical education amounted to £32,309. This total is exclusive of a sum of £4,707 expended on the Technological Museum and branches. In addition, an amount of £4,388 was expended from the Loan Vote on erection of buildings, and £163 consisted of London payments by the Treasury. The sum of £5,324 was received as fees from pupils, in addition to a Parliamentary grant of £26,985. The cost to the State per student, which in 1891 reached £4 5s. 9d., had in 1900 been reduced to £2 11s. 8d.

In addition to the technical instruction given in the various technical colleges and schools, it may be noted here that the Sydney Chamber of Commerce has instituted examinations at which candidates may gain certificates of competency in commercial education, while the Institute of Bankers conducts entrance and diploma examinations.

### Reformatories and Industrial Schools.

In addition to the purely educational establishments, the State maintains several reformatories and industrial schools. For girls there are the Industrial School at Parramatta and the Shaftesbury Reformatory at

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South Head; and for boys, the nautical schoolship Sobraon and the Carpenterian Reformatory. All these institutions are under the control of the Minister of Public Instruction. At the Parramatta Industrial School the total enrolment of girls during the year 1900 was 153, of whom 35 were under and 118 over 14 years of age. At the end of the year the girls numbered 97. The cost of maintaining the school in 1900 was £2,533. At the Shaftesbury Reformatory there were 30 girls at the close of 1900, the total enrolment for the year being 43, of whom 16 were under, and 27 over 14 years of age.

The want of a reformatory for criminal youths was much felt for many years, and in the absence of such an institution magistrates frequently ignored the criminal charges, and sent convicted boys to the schoolship. In the early part of 1894 the Government acquired the Brush Farm Estate, and portion of the land was speedily utilised, a section of the area in the municipality of Dundas being set apart as a home for crippled and delicate lads who have become inmates of charitable institutions, superseding a similar institution at Rydalmere, but these boys have since been transferred to Newington. Upon another section of the estate, coming within the boundaries of Eastwood, the Carpenterian Reformatory was opened in August, 1895. To this institution are sent boys who have been convicted in the lower or higher Courts, and whom it is desired to keep apart from such persons as they would have to associate with if sent to gaol. In addition to being subjected to proper discipline, the boys are taught farming, carpentering, bootmaking, tailoring, tinsmithing, painting and glazing, and jam making. At the end of 1900 there were 102 lads housed in the Reformatory, of whom 35 were under 14 years of age. The net State expenditure on this institution amounted to £2,882. Industrial work carried out during the year was valued at £2,940.

On the Sobraon 553 boys were dealt with during the year 1900. The admissions during the year numbered 235, and the discharges 226. The daily average number on board during the year was 322; and on the 31st December, 1900, there were 328 boys remaining on board. Up to this date there had been 4,313 boys admitted on board, of whom 3,979 had left. Favourable reports were received in the course of the year respecting more than 93 per cent. of the apprentices from the nautical schoolship who still remained under its supervision, and were liable to be brought back in case of misconduct. The management of the institution is excellent. Its net cost to the State during 1900 was £7,580. Calculated on the net expenditure, the cost to the State per head of enrolment was £13 14s. 1d., as compared with £14 19s. 4d. in 1899. The results obtained in the above-mentioned establishments have been of a very successful character, many children having been reclaimed from a depraved life, or rescued from unhappy surroundings, and turned out, after a course of some years' training, useful members of society. The great advantage which the Sobraon system possesses over the ordinary penal system of the State lies in

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the fact that the boys who have been subjected to a course of training on board the vessel are not turned adrift on society at the expiration of their term, but are apprenticed to persons of well-known character, and have every opportunity of becoming respectable members of the community. That they do become such is evidenced by the fact that very few lads apprenticed from the Sobraon lapse into crime and find their way into gaol. When such, however, does happen, the circumstance becomes widely advertised, and an impression contrary to fact is thus produced.

## Scientific Societies, Etc.

In a young country such as New South Wales, where most of the people are engaged in the development of its material resources, the existence of a leisured class, or one devoted to the pursuit of science, is hardly to be looked for. Nevertheless it is satisfactory to find that the higher aims of science are far from being neglected. As far back as the year 1821, a scientific society under the title of the Philosophical Society of Australasia was founded in Sydney, and after experiencing many vicissitudes of fortune was transformed in 1866 into, and afterwards incorporated under the title of, the Royal Society of New South Wales. The society is now in a flourishing condition, counting amongst its members some of the most eminent men in the state. Its objects are the advancement of science in Australia, and the encouragement of original research in all subjects of scientific, artistic, and philosophical interest, which may further the development of the resources of Australia, draw attention to its productions, or illustrate its natural history. The proceedings include papers of the greatest interest on important scientific questions, especially those whose solution is of Australian interest.

The study of the botany and natural history of Australia has attracted many enthusiastic students, and the Linnæan Society of New South Wales was established for the special purpose of furthering the advancement of these particular sciences. The society is housed in a commodious building at Elizabeth Bay, one of the most beautiful spots near the city, and possesses a library and museum. It was liberally endowed by Sir William Macleay, who, not content with being one of its most munificent supporters, was also an indefatigable worker in the field of science. The society's proceedings are published at regular intervals, and contain many valuable papers, together with excellent illustrations of objects of natural history.

Among the other scientific societies are the New South Wales Zoological Society, inaugurated in 1879; a branch of the British Medical Association, founded in 1881; a branch of the British Astronomical Association, whose first meeting was held in 1895; and a branch of the Anthropological Society of Australasia. The Australasian Association for the Advancement of Science, and the Royal Geographical Society of

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Australia, also have branches in New South Wales as well as in the other states.

The Sydney Observatory is numbered among the institutions of a scientific and educational character which the state liberally supports. Situated in a commanding position, it is admirably fitted for the purpose it is intended to serve. The present building was erected in 1856 at the instance of Sir William Denison, then Governor of the colony, who took a great interest in scientific pursuits. The Government Astronomer has under him a complete staff of assistants, and during the year 1900 a sum of £4,745 was expended in connection with the institution. Meteorological observations have received special attention, as befits such an important subject in a country whose prosperity depends so much upon climate. When the present Astronomer took office in 1870, there were in the state only six stations, and observations on the climate, rainfall, and other meteorological phenomena were necessarily very limited in character. At the end of 1900 the number of stations had been increased to 1,733. Weather charts and forecasts, based on telegraphic information received from the other states and New Caledonia, are issued twice daily. Rain gauges have also been established at most of the sheep and cattle stations of the interior, with a result which is highly satisfactory. The light thrown on the true characteristics of the climate, especially of that part of the state remote from the sea coast, has tended to modify the notion long current as to its unfitness for agricultural as well as pastoral settlement. The Observatory is open to the public once a week, and during 1900 the total number of visitors was 655.

## Public Libraries.

The Public Library of New South Wales was established, under the designation of the Free Public Library, on the 1st October, 1869, when the building and books of the Australian Subscription Library were purchased by the Government. The books thus acquired formed the nucleus of the present library. The number of volumes originally purchased was about 16,000, and on the 31st December, 1900, they had been increased to 149,840, including those in the lending branch or lent to country libraries. The lending branch was established in 1877 to meet a growing public want, and under the present system any person may, on the recommendation of a clergyman, magistrate, or other responsible person, obtain under certain simple regulations the loan of any of the works on the shelves, free of charge. The scope of this institution was further extended by the introduction of a system by which country libraries and Mechanics' Institutes may obtain on loan works of a select kind, which in many instances would be too expensive for them to purchase on account of the slender funds at their disposal. Under this system, boxes are made up containing from 60 to 100 books, and forwarded to the country libraries on application, to be returned or exchanged within four months. This system was initiated in August,



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1883, and has been carried on successfully ever since. In the course of the year 1900, 10,973 volumes were forwarded to 128 institutions, some of which were at considerable distances from the metropolis. All the charges in connection with the despatch and return of the books are defrayed by the state, and the system in vogue in New South Wales is the most liberal of its kind in existence.

The reference department of the Public Library of New South Wales contains 113,321 volumes, and the lending branch 27,138, while there are also 9,381 volumes for country libraries to be lent under the above-mentioned system, the total number of books and pamphlets, the property of this institution, being 149,840, classified as under :—

| Synopsis of Classification. | Reference Department. | Lending Branch. | For Country Libraries. | Total. |
|---|---|---|---|---|
| Natural Philosophy, Science, and the Arts | 15,368 | 4,368 | 1,681 | 21,382 |
| History, Chronology, Antiquities, and Mythology | 8,198 | 3,835 | 1,573 | 13,606 |
| Biography and Correspondence | 6,169 | 4,204 | 1,929 | 12,298 |
| Geography, Topography, Voyages and Travels, etc. | 7,688 | 3,709 | 1,489 | 12,886 |
| Periodical and Serial Literature | 34,044 | .... | 224 | 34,268 |
| Jurisprudence, Political Economy, Social Science, etc. | 6,998 | 1,329 | 350 | 8,677 |
| Theology, Moral and Mental Philosophy, and Education | 6,884 | 1,658 | 236 | 8,778 |
| Poetry and the Drama | 3,635 | 936 | 235 | 4,806 |
| General Literature, Philology, and Collected Works * | 7,304 | 7,079 | 1,738 | 16,121 |
| Works of Reference | 4,593 | .... | 15 | 4,608 |
| Duplicates | 2,444 | .... | .... | 2,444 |
| "Mitchell" Library | 10,051 | .... | .... | 10,051 |
| Total | 113,321 | 27,138 | 9,381 | 149,840 |

* Including 3,718 volumes of Fiction.

The popularity of the Public Library of New South Wales is clearly proved by the number of persons availing themselves of the privileges which it affords. The increase has been very regular, rising from 173,205 to 287,429 in 1900, 102,370 of which were visits to the lending branch. The following table shows the number of visits paid to the Library during the last ten years. It should be noted that the figures cannot be taken as in every sense a test of either the popularity of the library or the reading habits of the community, as a shower of rain drives the habitués of the surrounding parks to seek shelter which is most conveniently afforded by the Library and Art Gallery.

| | | | |
|---|---|---|---|
| 1891 | 173,205 | 1896 | 255,058 |
| 1892 | 197,255 | 1897 | 256,318 |
| 1893 | 216,089 | 1898 | 262,215 |
| 1894 | 209,099 | 1899 | 289,919 |
| 1895 | 237,170 | 1900 | 287,429 |

Besides the 287,429 visits recorded for 1900, no less than 304,686 were paid to the newspaper room. Although the lending branch contains but 27,138 volumes, the total number of times when books were issued during the year was not less than 106,039, and the number of persons availing themselves of the privilege of borrowing was 8,311 ; so that on an average each book was taken four times, and each person to whom a

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permit was granted used nearly thirteen volumes during the year. As usual, works of fiction were extensively read, each of the 3,718 novels in the branch having been issued over twelve times during the year. The number of volumes of each class taken out was as follows :—

| Synopsis of Classification. | No. of volumes used. |
|---|---|
| Natural Philosophy, Science, and the Arts | 10,686 |
| History, Chronology, Antiquities, and Mythology | 8,304 |
| Biography and Correspondence | 7,247 |
| Geography, Topography, Voyages and Travels, etc. | 8,509 |
| Jurisprudence, Political Economy, Social Science, etc. | 1,918 |
| Theology, Moral and Mental Philosophy, and Education | 3,345 |
| Poetry and the Drama | 2,399 |
| General Literature, Philology, and Collected Works | 18,741 |
| Prose Fiction | 44,890 |
| Total | 106,039 |

During 1886 and 1887 considerable extensions were made to the premises of the Public Library of New South Wales, which had become much too small for the accommodation of the public, and the proper housing of the books. It was at length decided to pull down the old building in Macquarie-street, and a contract was made about the middle of 1887 for rebuilding a large portion of the Library at a cost of £10,455. The new building was opened to the public in April, 1890; and the Public Library of New South Wales is now one of the most convenient in Australia. In July, 1899, it was found advisable to remove the Lending Branch of the Library from the old building in Macquarie-street to a more central position in the Queen Victoria Market buildings. In December, 1899, the Library was incorporated and received a statutory endowment of £2,000 per annum for the purchase of books.

The institution forms a separate department, under the control of the Minister of Public Instruction. Its cost to the State during 1900 was as follows :—

| | £ |
|---|---|
| Books, Periodicals, and Binding | 2,171 |
| Salaries | 5,521 |
| Miscellaneous—Cleaning, Freight, Repairs, &c. | 1,195 |
| Total | 8,887 |

The administration of the Copyright Act, the editing of the Historical Records of New South Wales, and the administrative work in connection with the Board for International Exchanges are also performed by the Library staff.

Besides the Public Library, which is situated in Sydney, there are smaller libraries established in the principal population centres throughout the state. These libraries may be broadly classed under two heads—Schools of Arts, receiving an annual subvention in proportion to the amount of

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monetary support accorded by the public; and Free Libraries, established in connection with municipalities. Those of the former class are far the more numerous. Under the provisions of the Municipalities Act of 1867 any municipality may establish and maintain a Free Library, and where such is done the Council of the Municipality is entitled, for the purchase of books, to the sum of £200 if the library is available for the use of a population of 1,000, or to £100 where the population to whom the library would be accessible reaches 300 persons. The number of public libraries in the state is 310, and these contain about 500,000 volumes. In addition, there are a large number of private circulating libraries which are extensively patronised.

### National Art Gallery.

The National Art Gallery was opened in June, 1876, in connection with the New South Wales Academy of Art (established in 1871). It was re-opened as the National Art Gallery in 1880 in temporary buildings in the Sydney Botanical Gardens, and is now situated in the Outer Domain, in a convenient and well-lighted building, which has received recent additions, but is yet incomplete. The Gallery contains an excellent collection of paintings and statuary, comprising some of the most famous works of the best modern artists of the old world, and includes several very valuable gifts from private persons. The collection of Water Colors is considered to be the finest out of England. It is estimated that the present value of the contents of the Gallery is not less than £123,000, Like the other national institutions of New South Wales, the Gallery is open on Sundays as well as week-days, and on Sundays and public holidays the attendance is especially numerous. During 1900 the Gallery was visited by 307,525 persons, the average Sunday attendance being 2,146, and on week-days, 628. Under certain regulations art students are admitted to the Gallery for the purposes of study, and the total number registered in 1900 was 315. In 1894 a system of loan exchanges between the Art Galleries of Sydney, Melbourne, and Adelaide was introduced. By this arrangement pictures are sent from Sydney to Melbourne and Adelaide, and others are received from the Art Galleries of those cities in exchange. That the interests of art have benefited under this system is unquestionable. Another excellent scheme was initiated in July, 1895, by which collections of pictures belonging to the Art Gallery and the Art Society are made up and sent to the principal country towns for temporary exhibition. Up to the end of 1900 the total expenditure on the National Art Gallery was £122,828, of which the sum of £91,638 had been expended on works of art. The disbursements during 1900 were:—

| | £ |
|---|---|
| For works of art | 1,898 |
| For maintenance, including freight, frames, repairs, and insurance | 983 |
| For salaries | 1,594 |
| Total cost to the State | 4,475 |

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## Museums.

The Australian Museum, the oldest institution of the kind in Australia, occupies a conspicuous site in the centre of Sydney, facing one of the principal parks. After its foundation in 1836 it was connected for some time with the Botanical Gardens, and was located in Macquarie-street. Subsequently it was removed to the Surveyor-General's Office, and finally in 1849 to its present position. The collections contain carefully-selected specimens of the principal objects of natural history found in such establishments, and also a most complete collection of zoological specimens of distinctly Australian character. The popularity of the institution is evinced by the increasing number of persons by whom it is visited. The Museum is open to the public every day except Monday, and on Sundays the visitors are very numerous. The number of visitors during 1900 was 116,927, the daily average being 601 on Sundays, and 324 on other days. The expenses in connection with the institution amounted to £6,777, of which £1,969 was expended on account of purchase, collection, and carriage of specimens, and purchase of books.

The Technological Museum, formerly situated in the Outer Domain, is now housed in a fine building at Ultimo. This museum was instituted at the close of 1879 on the initiative of the Trustees of the Australian Museum; but the whole collection of some 9,000 specimens was totally lost in 1882 by the Garden Palace fire. Strenuous efforts were at once made to replace the lost collection, and in December, 1883, the museum was again opened to the public, and now contains interesting and valuable series of specimens illustrating the various stages of many manufactures, and an excellent collection of natural products. The popularity of the institution may be gathered from the fact that 105,275 persons visited it during 1900.

There are branch Technological Museums at Goulburn, Bathurst, West Maitland, Newcastle, and Albury, which were visited by 124,007 persons during 1900, a decrease of 9,062 on the attendance of the previous year. The sum of £4,707 was expended on the various institutions of this nature (including the one in Sydney) during 1900.

Connected with the Department of Mines and Agriculture is a Mining and Geological Museum, housed in an iron building in the Outer Domain. The museum is open to the public on week-days, admission being free.

## Religion.

In the eyes of the state all religions are equal in New South Wales, but during the early days of the state's history such was not the case. New South Wales was originally a Crown Colony, and the Church establishment as it existed in England was naturally transplanted to these shores. Ecclesiastical monopoly nevertheless only continued for a short time, and the countenance and support of the state were eventually extended, during the governorship of Sir Richard Bourke, to the principal

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religious bodies which then existed—the Anglicans, Roman Catholics, Presbyterians, and Wesleyan Methodists. To the clergy of each of these denominations the Government granted what has usually been denominated State aid, which continued long after the old political system had passed away and had been replaced by Responsible Government. In 1862, however, an Act was passed limiting future payments to the clergy then actually in receipt of State aid. In the year following the passing of this Act the claims on the Government amounted to £32,372, thus distributed :—

| | | | |
|---|---|---|---|
| Church of England ..... | £17,967 | Presbyterian ..... | £2,873 |
| Roman Catholic Church... | 8,748 | Wesleyan Methodist ..... | 2,784 |

Year by year the sum payable has been lessening, owing chiefly to the deaths of clergymen in receipt of State aid, so that during the year ended June, 1901, the payment by the State was £4,281, distributed as follows :—

| | | | |
|---|---|---|---|
| Church of England ..... | £2,141 | Presbyterian ..... | £512 |
| Roman Catholic Church .... | 1,178 | Wesleyan Methodist ..... | 450 |

The payments to the clergy of different denominations are given for various periods since 1863. It will be observed that in some years the amounts paid were less than in succeeding years. This anomaly is due to the temporary stoppage of the stipends of clergymen who were absent from the state. The total payments made since 1863 amount to £565,171, of which £304,653 was paid to clergymen of the Church of England, £160,111 to Roman Catholics, £56,050 to Presbyterians, and £44,357 to Wesleyan Methodists :—

| Year. | Church of England. | Roman Catholic Church. | Presbyterian. | Wesleyan Methodist. | Total—All denominations. |
|---|---|---|---|---|---|
| | £ | £ | £ | £ | £ |
| 1863 | 17,967 | 8,748 | 2,873 | 2,784 | 32,372 |
| 1865 | 14,111 | 7,430 | 3,090 | 1,572 | 26,203 |
| 1870 | 12,386 | 6,583 | 2,180 | 1,573 | 22,722 |
| 1875 | 10,725 | 5,608 | 1,626 | 1,372 | 19,331 |
| 1880 | 7,739 | 3,892 | 1,702 | 1,716 | 15,049 |
| 1885 | 5,791 | 3,000 | 1,039 | 1,136 | 10,966 |
| 1890 | 5,556 | 2,600 | 702 | 900 | 9,758 |
| 1891 | 5,347 | 2,570 | 702 | 875 | 9,494 |
| 1892 | 4,926 | 2,312 | 702 | 750 | 8,690 |
| 1893 | 4,260 | 2,300 | 702 | 750 | 8,012 |
| 1894 | 3,521 | 2,058 | 644 | 687 | 6,910 |
| *1895 | 1,920 | 1,023 | 351 | 438 | 3,732 |
| 1895-6 | 3,824 | 1,976 | 569 | 687 | 7,056 |
| 1896-7 | 3,537 | 1,888 | 552 | 750 | 6,727 |
| 1897-8 | 2,881 | 1,696 | 552 | 734 | 5,863 |
| 1898-9 | 2,600 | 1,435 | 552 | 534 | 5,121 |
| 1899-1900 | 2,283 | 1,375 | 552 | 450 | 4,660 |
| 1900-01 | 2,141 | 1,178 | 512 | 450 | 4,281 |

* Six months.

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The number of persons entitled to State aid during 1900 was 25—12 clergymen of the Church of England, 6 Roman Catholics, 4 Presbyterians, and 3 Wesleyan Methodists.

At the Census of 1901 the number of adherents to each of the denominations, with the clergy registered for the celebration of marriages, was as given below. The table also shows the average number of adherents to each denomination compared with the number of clergymen in active service:—

| Denomination. | Clergy. | Adherents. | Proportion of adherents to clergy. |
|---|---|---|---|
| Church of England | 363 | 623,131 | 1,717 |
| Roman Catholic | 299 | 347,286 | 1,162 |
| Presbyterian | 182 | 132,617 | 729 |
| Methodist | 200 | 137,638 | 688 |
| Baptist | 37 | 16,618 | 449 |
| Congregationalist | 51 | 24,834 | 467 |
| Lutheran | 5 | 7,387 | 1,477 |
| Salvation Army | 10 | 9,585 | 958 |
| Unitarian | 1 | 770 | 770 |
| Other Christian | 27 | 13,635 | 505 |
| Jew, Hebrew | 4 | 6,447 | 1,612 |
| Mahometan | ..... | 1,072 | ..... |
| Buddhist, Confucian | ..... | 5,471 | ..... |
| Hindoo, Brahmin, Sikh | ..... | 468 | ..... |
| Other non-Christian | ..... | 1,024 | ..... |
| Freethinker, Agnostic | ..... | 3,434 | ..... |
| Indefinite | ..... | 130 | ..... |
| No denomination, no religious profession | ..... | 4,623 | ..... |
| No religion | ..... | 1,642 | ..... |
| Object to state | ..... | 13,068 | ..... |
| Unspecified | ..... | 3,966 | ..... |
| Total | 1,179 | 1,354,846 | ..... |

From the figures just given full-blooded aborigines and half-castes living in a nomadic state, to the number of 4,287, have been excluded. Taking the whole population (less aborigines), there were 1,149 persons on an average to each clergyman.

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Formerly, religious statistics were collected every year. It has now been decided to have only one collection half way between the Census periods, so that new figures will be available every five years. The figures given below refer to the year 1901, when the latest collection was made. In that year the number of persons of 14 years of age and over attending Divine Service on Sundays averaged 361,132. When the sparseness of the population in some parts of the country is considered, the church attendance will appear fairly satisfactory. In 1881 the Church of England had the largest attendance, but from 1884 the Church of Rome has taken the lead.

The figures showing the attendance at Divine Service on Sundays for each of the principal denominations are given hereunder, but too much reliance cannot be placed on the results, as it has been found difficult to secure thoroughly complete returns. No proportion is stated for the Salvation Army, as the returns quote a larger attendance than the actual census of the whole of that denomination.

| Denomination. | Number of distinct persons attending Divine Service on Sundays. | Proportion of Denominations attending Divine Service on Sundays. |
|---|---|---|
| | | Per cent. |
| Church of England | 95,842 | 22·9 |
| Roman Catholic | 109,046 | 46·6 |
| Presbyterian | 27,090 | 30·4 |
| Congregational | 12,429 | 74·3 |
| Methodist | 85,491 | 93·9 |
| Baptist | 7,580 | 68·8 |
| Salvation Army | 17,811 | ..... |
| Other Denominations | 5,843 | 18·2 |
| Total | 361,132 | ..... |

The Church of England is the largest religious denomination in the state, whether judged by the number of professed adherents, the number of clergy, or the number of buildings used for Divine Service. During the year 1900 there were 759 churches belonging to this denomination, and 868 buildings and dwellings used for public worship, accommodating altogether 146,362 persons; and the attendance on Sundays of habitual adherents was 95,842. In January, 1901, the number of clergy registered for the celebration of marriages, was 362. The Church of England in the state is governed by a Metropolitan, the Archbishop of Sydney, who is Primate of Australia and Tasmania, and five other Bishops, whose sees are Newcastle, Goulburn, Bathurst, Grafton, Armidale, and Riverina. By an Act passed in 1881, provision

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was made for the creation of corporate bodies of trustees, in which property belonging to the Church of England may be vested, and trusts for various dioceses have been formed under the Act. They are entitled to hold, on behalf of the Church, all real and personal property which may be assigned to them by grant, will, or otherwise.

The Roman Catholic Church is presided over by the Cardinal Archbishop of Sydney, assisted by a Coadjutor Bishop, under whom are the suffragan bishops of Maitland, Goulburn, Bathurst, Armidale, Wilcannia, and Lismore, the whole state forming an ecclesiastical province. No fewer than thirty-three religious orders are represented in the state. In 1901 there were 299 priests licensed to celebrate marriages. The number of Roman Catholic churches was 527 ; besides these, there were 699 buildings or dwellings used for Divine Service. The accommodation afforded by the churches and buildings amounted to 132,574, and the attendance of adherents of 14 years of age and over was 109,046, while the total number of attendants of all ages was 138,460. A return issued by the Church authorities gives the number of religious brothers as 277, and the number of nuns as 1,943.

The various branches of the Presbyterian Church in the state had, during 1900, 312 churches used for public worship ; there were also 586 public buildings or dwellings occasionally used for the same purpose. The number of ministers licensed to celebrate marriages is 182, of whom 176 were connected with the Presbyterian Church of New South Wales, 4 with the Presbyterian Church Synod of Eastern Australia, and 2 with the Presbyterian Church of Eastern Australia reconstituted Synod. The accommodation provided in churches and buildings was 50,736 sittings, and the attendance of habitual adherents numbered about 27,090. For the purposes of this Church, the state is divided into fourteen Presbyteries, each comprising a number of separate charges, to each of which a Minister is appointed. The management of the affairs of the Church is controlled by a General Assembly, which sits annually, and consists of Ministers and Elders from the charges within the different Presbyteries. It is presided over by a Moderator, who is elected by the Presbyteries, who also nominate representatives to the Federal Assembly. The first Assembly of the Presbyterian Church of New South Wales was held in 1865. By Act of Parliament the Assembly has power to grant permission to trustees to mortgage Church property, and trustees are authorised to hold property for the Church generally. In July, 1901, a scheme of federal union was adopted by representatives from the various states, and the united church is called the Presbyterian Church of Australia.

The Wesleyan Methodists in Australia received from the English Conference, in 1884, an independent constitution. There are nine districts into which the Wesleyan Methodist communion is divided. Throughout the state there are 460 churches and 602 other preaching places, with sittings to the number of 105,292. The denomination has in its service 144 regular clergy and 608 local preachers. The number

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of church members is 11,966, while there are 1,164 communicants other than members; and the attendance of persons of 14 years and over at Divine Service on Sundays was 77,884. The Wesleyan Methodist Church Property Act of 1889 provides for the appointment of trustees to hold all lands acquired by gift, devise, purchase, or otherwise, under a deed, a model of which forms a schedule to the Act; and the measure gives power to a majority of the trustees to mortgage, exchange, or lease Church properties. It also provides for the appointment of a Custodian and an Acting Custodian of Deeds, who are to be notified by the President of the Conference, and their names published in the *Government Gazette*, and registered in the Land Titles Office. The Tonga District and South Sea Missions are attached to the New South Wales Conference.

The Primitive Methodists, United Methodists, and other Methodists, with the Bible Christians, have 78 churches and 11 other buildings, and 33 clergy; accommodation is provided for 14,845 persons; and the attendance at Divine Service is about 7,860.

In January, 1902, the various Methodist denominations entered into organic union as one church, the united body now constituting the Methodist Church af Australia.

The Congregational Church has 77 churches, as well as 40 buildings or dwellings used for worship; and the sittings provided will accommodate 24,150 persons. The clergy licensed to celebrate marriages number 51, and the attendance at Divine Service on Sundays averages 12,429.

The various Baptist Churches in the state have 37 licensed ministers, with 41 churches and 76 other buildings devoted to public worship; the Sunday attendance averages 7,580 persons. The Baptist Union of New South Wales is not incorporated, and so cannot legally hold property in trust for the denomination. Annual sessions, with half-yearly assemblies, are held, the chair being taken by a President, who is elected annually. For several sessions a draft constitution was under the consideration of the Union, which, amongst other matters, provides that all properties which now belong or may hereafter accrue to the Union shall be held under a Model Trust Deed, by Trustees to be duly appointed. The constitution was adopted and is now in force, but the matter of incorporation remains in abeyance.

The Salvation Army was established in Australia in 1882. Melbourne was made the chief centre for Australasia under the command of a Commissioner, and Sydney was constituted the headquarters for New South Wales, with a separate chief officer, who is termed Colonel, in command, all officers and members bearing military titles and designations. The various ranks are Commissioner, Colonel, Brigadier, Major, Staff-Captain, Adjutant, Ensign, Captain, Lieutenant, and Cadet. The rank and file consist of sergeant-majors, sergeants, and soldiers, There are also treasurers and secretaries to corps. Persons who are in sympathy with the Salvation Army, but who have not subscribed to the "Articles of War"—which combine a confession of faith and a pledge

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against the use of intoxicating liquors and baneful drugs—form an Auxiliary League and contribute to the funds of the Army. Persons desirous of membership are publicly received, after one month's probation and having signed the "Articles of War," and are then attached to the corps nearest their place of residence. The Army has only 10 officers licensed to celebrate marriages, but has 341 buildings used for service, accommodating 43,800 persons. The number of persons attending public worship on Sundays is estimated at 17,811.

Besides those above enumerated, there are other distinct religious bodies, for the most part Protestant denominations, with clergy licensed by the State to celebrate marriages. The number of clergy ministering to these in 1900 was 41; the churches and other buildings used for Divine Service numbered 85; and the attendance was about 5,843 persons.

The number of registered ministers belonging to all faiths was 1,179, and the churches numbered 2,419, in addition to which there were 3,143 dwellings or other buildings used for public worship. Accommodation was provided for 546,054 persons. The average attendance on Sundays was about 361,132.

Nearly all the religious bodies maintain Sunday-schools. The attendance of children at the Sunday-schools of the leading denominations, with the number of schools and teachers during 1900, was:—

| Denomination. | No. of schools. | Teachers. | | | Scholars on the Roll. | | | Estimated Average Attendance. |
|---|---|---|---|---|---|---|---|---|
| | | Males. | Females. | Total. | Males. | Females. | Total. | |
| Church of England.. | 631 | 1,318 | 3,389 | 4,707 | 26,400 | 34,028 | 60,428 | 43,329 |
| Roman Catholic ..... | 571 | 244 | 1,228 | 1,472 | 16,079 | 20,501 | 36,580 | 29,487 |
| Presbyterian ..... | 303 | 646 | 1,300 | 1,946 | 8,845 | 11,049 | 19,894 | 13,782 |
| Congregational ..... | 81 | 343 | 520 | 863 | 4,333 | 5,474 | 9,807 | 7,207 |
| Methodist ..... | 495 | 1,529 | 2,926 | 4,455 | 17,814 | 23,178 | 40,992 | 26,356 |
| Baptist ..... | 46 | 196 | 228 | 424 | 2,010 | 2,432 | 4,442 | 3,312 |
| Salvation Army ..... | 111 | 192 | 231 | 423 | 1,841 | 2,469 | 4,310 | 4,933 |
| Other Denominations | 48 | 143 | 174 | 317 | 1,284 | 1,736 | 3,020 | 2,131 |
| Total..... | 2,286 | 4,611 | 9,996 | 14,607 | 78,606 | 100,867 | 179,473 | 130,537 |

The average attendance of scholars in the returns for the Salvation Army includes children who occasionally attend the schools, but are not enrolled; hence the attendance shown is greater than the actual enrolment.

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The attendance shown in the preceding table amounts to about 45 per cent. of the total children between the ages of 7 and 15 years, inclusive, at which ages children generally attend Sunday-schools. The number of Sunday-schools and teachers, and the attendance, during the undermentioned four years, were :—

| Year. | Number of schools. | Number of teachers. | Average attendance of Scholars. | | |
|---|---|---|---|---|---|
| | | | Male. | Female. | Total. |
| 1891 | 1,887 | 12,169 | 54,932 | 68,592 | 123,524 |
| 1894 | 2,049 | 13,131 | 47,552 | 61,949 | 109,501 |
| 1897 | 2,167 | 13,748 | 55,960 | 72,420 | 128,380 |
| 1900 | 2,286 | 14,607 | 55,942 | 74,595 | 130,537 |

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# LAW AND CRIME.

## Police.

At the end of the year 1900 the police force of New South Wales consisted of 2,142 men of all ranks, of whom 761 were mounted. The force, which comprises 13 superintendents, 11 inspectors, 39 sub-inspectors, 58 senior-sergeants, 121 sergeants, 302 senior-constables, 1,584 constables, and 14 detectives, is commanded by an Inspector-General, who is under the control of the Chief Secretary of the state, the police being directly in the service of the state. The system of municipal government which exists in New South Wales is a very imperfect one, and the question of handing over to the incorporated areas the power to raise local bodies of constabulary and to appoint their own honorary magistrates has not been seriously considered; nor even if such powers did exist is it at all likely that any municipality would, were the matter left optional, care to burden itself with the preservation of order while the Government continued to perform this duty in the unincorporated districts.

Below will be found the number of police in the metropolitan and country districts at the close of each of the last ten years. It will be seen that with the growth of population the force is steadily increasing in strength :—

| Year. | Metropolitan. | Country. | Total. | Number of Inhabitants to each Police Officer. |
|---|---|---|---|---|
| 1891 | 643 | 1,022 | 1,665 | 698 |
| 1892 | 697 | 1,059 | 1,756 | 679 |
| 1893 | 714 | 1,062 | 1,776 | 684 |
| 1894 | 731 | 1,088 | 1,819 | 681 |
| 1895 | 745 | 1,108 | 1,853 | 681 |
| 1896 | 749 | 1,125 | 1,874 | 682 |
| 1897 | 754 | 1,143 | 1,897 | 686 |
| 1898 | 792 | 1,165 | 1,957 | 676 |
| 1899 | 821 | 1,195 | 2,016 | 667 |
| 1900 | 888 | 1,254 | 2,142 | 637 |

Included with the figures for 1900 there were 36 members of the force engaged on military service in South Africa.

The protection of life and property is not the only duty which the police are called upon to perform. On the contrary, a large portion of their time is taken up in the collection of the agricultural and stock schedules and the returns of works and manufactories, and other work of a like character; in many cases they also act as Clerks of Petty

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Sessions and Wardens' clerks, and fill other offices having no direct connection with police duties. The test which is sometimes applied in order to ascertain the law-abiding character of the populations of the various States, namely, to compare the numbers of persons protected by each officer, is quite worthless unless the diverse nature of the duties performed by the police and the vast difference in the areas of the provinces are also taken into consideration. The comparison afforded by the following table may, therefore, only be accepted for what it is worth. The figures, like those previously given, refer to the end of the year 1900 :—

| State. | Police. | | | To each Police Officer. | |
|---|---|---|---|---|---|
| | Metropolitan. | Country. | Total. | Inhabitants. | Square miles. |
| New South Wales..... | 838 | 1,254 | 2,142 | 639 | 145 |
| Victoria ... ..... | 735 | 730 | 1,465 | 804 | 60 |
| Queensland ..... | 202 | 664 | 866 | 566 | 772 |
| South Australia ..... | 173 | 219 | 392 | 950 | 2,305 |
| Western Australia..... | 150 | 346 | 496 | 354 | 1,968 |
| Tasmania ..... | 56 | 192 | 250 | 710 | 105 |
| New Zealand..... | 61 | 526 | 587 | 1,301 | 178 |

A comparison of the police forces of the principal cities of Australasia, the United Kingdom, and the United States, is given in the next table, and it would appear that the Australasian capitals have proportionately less police supervision than the other places enumerated in the list. This, however, of itself argues nothing in favour of the law-abiding character of the population of the Australasian cities, but rather that a large number of police could with advantage be added to the force now employed for their protection :—

| Cities. | Strength of Police. | Population to each Police Constable. | Cities. | Strength of Police. | Population to each Police Constable. |
|---|---|---|---|---|---|
| Australasia— | No. | No. | United Kingdom— | No. | No. |
| Sydney ..... | 888 | 551 | Edinburgh ..... | 1,507 | 545 |
| Melbourne ..... | 735 | 672 | Glasgow ..... | 1,310 | 531 |
| Brisbane ..... | 202 | 593 | Dublin ..... | 1,145 | 308 |
| Adelaide ..... | 173 | 937 | United States— | | |
| Perth ..... | 150 | 290 | New York..... | 5,051 | 299 |
| Hobart ..... | 58 | 657 | Philadelphia ..... | 2,451 | 427 |
| Wellington ..... | 61 | 490 | Chicago ..... | 3,490 | 342 |
| United Kingdom— | | | Brooklyn ..... | 1,826 | 438 |
| London..... | 14,260 | 395 | Boston ..... | 1,094 | 468 |
| Liverpool ..... | 1,294 | 400 | Baltimore ..... | 817 | 531 |
| Manchester ..... | 1,031 | 490 | | | |

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The total cost of the police service in New South Wales for the year 1900–1 was £368,087. This sum, however, includes not only the pay of the officers and men, but also the expenses of equipment, forage, and mounting, as well as of the office establishment. The pay of a constable ranges from 6s. to 8s. per diem, while sergeants receive from 9s. 3d. to 10s. 6d. per day. Detectives receive from 9s. to 13s. per day.

A comparison of the cost of the police forces of the various States will be found below. The greater proportion of mounted troopers in those States where very large and thinly-populated districts have to be scoured tends to make the average cost somewhat higher than in the other provinces :—

| State. | Police Force. | Total Cost of Force. | Average Cost per Constable. | Average Cost per head of Population. |
|---|---|---|---|---|
| | No. | £ | £ s. d. | £ s. d. |
| New South Wales | 2,142 | 384,442 | 179 9 7 | 0 5 8 |
| Victoria | 1,465 | 272,496 | 186 0 1 | 0 4 7 |
| Queensland | 866 | 182,446 | 210 13 6 | 0 7 5 |
| South Australia | 392 | 73,925 | 188 11 8 | 0 4 0 |
| Western Australia | 496 | 113,859 | 229 11 1 | 0 13 0 |
| Tasmania | 250 | 37,452 | 149 16 2 | 0 4 3 |
| Commonwealth | 5,611 | 1,064,620 | 189 14 9 | 0 5 8 |
| New Zealand | 587 | 116,420 | 198 6 8 | 0 3 1 |
| Australasia | 6,198 | 1,181,040 | 190 11 0 | 0 5 3 |

## Compilation of Criminal Statistics.

No one who has given his attention to the subject of the prevalence of crime in Australasia can have failed to be struck by the fact that, in comparison with the other States, New South Wales has always shown a remarkably high rate of offenders—a rate which, it is true, has, as in the case of the other States, fallen with the social progress of the people, but which has, nevertheless, year after year, pertinaciously maintained its unenviable pre-eminence amongst the provinces, with the exception of Western Australia, which is in quite an exceptional position. In one quarter the theory was put forward that this state of affairs must be due to a blood taint derived from the bond population of early days ; but unfortunately for this conjecture, the statistics show that at the time it was hazarded only 36·2 per cent. of the offenders were natives of the State, while at present the proportion barely reaches one-third. Undoubtedly the position occupied by New South Wales is not one into which the State has been forced and held there by one cause alone. The absence of an Act to prevent the influx of criminals from other provinces ; the large floating population of the State ; the differences in the criminal code ; the greater strictness of police administration—all these are matters which must be recognised as having exerted and as exerting an appreciable influence on the prevalence of

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crime in New South Wales. But careful investigation during the last few years has shown that the returns, both of the police and of the Clerks of Petty Sessions, have painted the State in much darker hues than the actual number of the criminal population warranted. Formerly great importance was attached to the number of apprehensions shown by the police to have been made during the year; but it has become evident that the figures obtained from the police are somewhat misleading, as they represent the total transactions of the various stations and offices rather than the actual number of persons apprehended. For example, it is the practice to count an arrested person at every office into which he may be brought prior to making an appearance before the Bench, and it is not too much to say that the police returns are overstated to the extent of something like 13 per cent. Under these circumstances, it was thought better to abandon altogether the figures compiled by the police, and to rely upon the returns of the courts alone, since every person who is entered in the charge-books must be brought up in open court; but this course has only been possible within the past six years, for the returns of the Clerks of Petty Sessions themselves have been to a great extent misleading. Indeed, it has now been considered advisable to discard the statistics of magistrates' courts for all years prior to 1891, for down to 1890 the form of return filled up by the Clerks of Petty Sessions, which was that drawn up for use in the United Kingdom, was such as to lend itself very readily to careless compilation, being of such a kind that the entries made could not be checked in the statistical office. Accordingly, another form of return, which would ensure the accurate entry of the proceedings in magistrates' courts, was prepared and came into use for the first time in 1891. Since that year imperfections in the compilation of the statistics have been remedied one by one as they have manifested themselves. It was found that a large element of confusion was introduced by the presentation of the business of the courts on the different bases of cases, offences, and persons. One case, of course, might cover a number of persons, and one person might be charged with several offences on the one appearance. To make a proper comparison between the population and the persons who are given to lawlessness the number of offenders should be taken, and it is on this basis that the figures have been compiled since 1894. For the preceding three years shown in the comparative tables which follow this explanation, only the actual numbers of offences were obtainable, and the figures have therefore been reduced to the basis of offenders by a method which gives as correct an estimate as it is possible to obtain.

### Magistrates' Courts.

In the Metropolitan and Newcastle districts, the Courts of Petty Sessions are presided over by Stipendiary Magistrates; and in the country districts by Police Magistrates and Justices of the Peace, the

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latter of whom are honorary officers. All persons entered in the charge-books of the police, except such as have been committed by a Supreme Court Judge or by a Coroner, must be brought up at Petty Sessions, either to be dealt with summarily or to be committed to a higher tribunal. With the exception of breaches of the Distillation Act, the Customs Regulations' Acts, the Chinese Restriction Act, and the Children's Protection Act, which are punishable in the lower courts by a maximum sentence of one year's imprisonment in the case of the first two statutes, and of two years' imprisonment in the case of the other two, the jurisdiction of the magistracy of New South Wales is limited to offences involving a penalty of not more than six months' imprisonment. A magistrate is not empowered to pass cumulative sentences; but while a person is undergoing a term of imprisonment for the committal of one offence he may be brought up in a lower court to answer to another charge, and if convicted may be sentenced to another term, to take effect from the expiry of the first sentence.

Exclusive of those charged as being of unsound mind, the persons brought before magistrates during the year 1900 numbered 56,590, of whom 37,462 had been arrested, while 19,128 appeared on private and police summons. This gave a proportion of 4,174 per 100,000 of population, as compared with 4,022 in the year 1899; so that during the twelve months the amount of crime, as disclosed by the returns of the lower courts, increased to the extent of 152 per 100,000 inhabitants. Below will be found a table showing in what manner the accused persons were brought up to answer the charges preferred against them, and how their cases were disposed of. It is to be understood that where several offences were charged against a person on the one appearance, account is only taken of the most important:—

| How brought up. | Persons charged before Magistrates. | Summarily dealt with. | | | Committed. |
|---|---|---|---|---|---|
| | | Convicted. | Discharged, etc. | Total. | |
| By arrest ..... | 37,462 | 33,458 | 2,986 | 36,444 | 1,018 |
| By private and police summons..... | 19,128 | 13,559 | 5,444 | 19,003 | 125 |
| Total ..... | 56,590 | 47,017 | 8,430 | 55,447 | 1,143 |

It will be seen from the above table that of the 56,590 persons charged before magistrates during the year, only 1,143 were committed to higher courts, and no less than 55,447 were summarily dealt with—convictions being recorded in 47,017 cases, while 8,430 persons were discharged after evidence had been taken, or against whom proceedings were not pressed. Appended is a division of the accused persons according to sex, from which it may be gathered that while females



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contributed 7,900 to the ranks of the offenders, only 1 per cent. of their number were committed to a higher tribunal, as compared with 2·19 per cent. of the males. Of the females committed, nearly 50 per cent. were charged with larceny, breaking and entering, stealing from the person, and stealing in a dwelling :—

| Sex. | Charged before Magistrates. | Summarily dealt with. | | | Committed. |
|---|---|---|---|---|---|
| | | Convicted. | Discharged, etc. | Total. | |
| Males ..... | 48,690 | 40,455 | 7,171 | 47,626 | 1,064 |
| Females ..... | 7,900 | 6,562 | 1,259 | 7,821 | 79 |
| Total ..... | 56,590 | 47,017 | 8,430 | 55,447 | 1,143 |

Comparing the male and female offenders with the population, it will be found that of every 100,000 males in the state during 1900, 6,812 were charged with offences against the law, while of an equal number of females but 1,235 were accused before magistrates. The summary convictions give the proportions of 5,660 per 100,000 males and 1,026 per 100,000 females. In the case of committals, however, the females emerge from the comparison on much more favourable terms ; for while 149 of every 100,000 males were sent up to higher courts during the year, the proportion of females so dealt with was but 12. The preceding table, reduced to a population basis, will be found below :—

| Sex. | Per 100,000 of Population. | | | | |
|---|---|---|---|---|---|
| | Charged before Magistrates. | Summarily dealt with. | | | Committed. |
| | | Convicted. | Discharged, etc. | Total. | |
| Males ..... | 6,812 | 5,660 | 1,003 | 6,663 | 149 |
| Females ..... | 1,235 | 1,026 | 197 | 1,223 | 12 |
| Persons ..... | 4,174 | 3,468 | 622 | 4,090 | 84 |

Although the mean population within the metropolitan area in 1900 was 479,570 as compared with 874,760 in the country districts, 27,201 of the 56,590 persons charged before magistrates during the year were brought up in the metropolitan division. On the basis of population, this gives a proportion of 5,671 offenders per 100,000 inhabitants in the metropolis, a much heavier rate than that of the country, viz., 3,359 per 100,000. It is, of course, obvious that where the temptation to break the law is greatest, the largest number of offenders will be found ; and it is also the case that many offences, such as drunkenness and other offences against good order, are liable to be promptly

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dealt with in large aggregations of population, while to a great extent they escape attention in sparsely-settled districts. If an examination be made into the nature of the offences with which the accused were charged, it will be found that, while the total rate of the metropolitan district was 69 per cent. higher than that of the country, the rate of offences against the person and against property in Sydney and suburbs was but 59 per cent. above the corresponding rate for the other parts of the State. The difference in the percentage of offenders committed in the two divisions, which may be seen from the following table, is chiefly attributable to the great excess of persons within the metropolitan area charged with offences against good order :—

| District. | Persons charged before Magistrates. | Summarily dealt with. | | | Committed. |
|---|---|---|---|---|---|
| | | Convicted. | Discharged, etc. | Total. | |
| **Total Number of Offenders.** | | | | | |
| Metropolitan | 27,201 | 22,822 | 3,939 | 26,761 | 440 |
| Country | 29,389 | 24,195 | 4,491 | 28,686 | 703 |
| New South Wales ... | 56,590 | 47,017 | 8,430 | 55,447 | 1,143 |
| **Per 100,000 of Population.** | | | | | |
| Metropolitan | 5,671 | 4,759 | 821 | 5,580 | 91 |
| Country | 3,359 | 2,766 | 513 | 3,279 | 80 |
| New South Wales ... | 4,178 | 3,472 | 622 | 4,094 | 84 |

Leaving the committals to be dealt with in the superior court returns, an investigation into the nature of the offences of which the 55,447 persons summarily dealt with in 1900 were accused, shows that there were 3,777 persons charged with offences against the person, 735 with offences against property with violence, 4,290 with offences against property without violence, 17 with forgery and offences against the currency, and 46,628 with other offences, the overwhelming majority of which were of a minor character, consisting chiefly of drunkenness and other offences against good order—such as disorderly conduct and using bad language—and of vagrancy and breaches of various Acts. It is evident, therefore, that the somewhat large number of offenders summarily dealt with is made up principally of persons who cannot justly be included amongst the criminal classes, the total number of offenders against the person and against property, including forgery and offences against the currency, being 8,819 out of a total of 55,447. Appended will be found a classification of the offenders summarily dealt with during each of the past ten years, with the proportions per 100,000 of population. As already explained, the figures originally published for the years 1891, 1892, and 1893 referred to offences, and they have,

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therefore, been reduced to the basis of offenders as in the succeeding years :—

| Year. | Against the Person. | Against Property, with violence. | Against Property, without violence. | Forgery and Offences against the Currency. | Against Good Order, and all other Offences. | Total. |
|---|---|---|---|---|---|---|
| | | | NUMBER OF OFFENDERS. | | | |
| 1891 | 5,515 | 917 | 4,622 | 43 | 56,433 | 67,530 |
| 1892 | 6,178 | 995 | 5,596 | 24 | 56,140 | 68,933 |
| 1893 | 5,381 | 1,004 | 5,127 | 19 | 54,926 | 66,457 |
| 1894 | 4,386 | 953 | 5,302 | 24 | 49,772 | 60,437 |
| 1895 | 4,105 | 799 | 4,865 | 15 | 49,335 | 59,119 |
| 1896 | 3,866 | 747 | 4,792 | 33 | 45,726 | 55,164 |
| 1897 | 3,877 | 756 | 4,398 | 24 | 45,796 | 54,851 |
| 1898 | 3,910 | 626 | 4,671 | 21 | 44,919 | 54,147 |
| 1899 | 3,834 | 699 | 4,497 | 14 | 43,777 | 52,821 |
| 1900 | 3,777 | 735 | 4,290 | 17 | 46,628 | 55,447 |
| | | | PER 100,000 OF POPULATION. | | | |
| 1891 | 482·9 | 80·3 | 404·7 | 3·8 | 4,941·4 | 5,913·1 |
| 1892 | 524·9 | 84·5 | 475·5 | 2·0 | 4,769·8 | 5,856·7 |
| 1893 | 447·2 | 83·5 | 426·1 | 1·6 | 4,565·1 | 5,523·5 |
| 1894 | 357·5 | 77·7 | 432·1 | 2·0 | 4,056·7 | 4,926·0 |
| 1895 | 328·2 | 63·9 | 388·9 | 1·2 | 3,944·4 | 4,726·6 |
| 1896 | 304·3 | 58·8 | 377·1 | 2·6 | 3,598·7 | 4,341·5 |
| 1897 | 300·5 | 58·6 | 340·8 | 1·9 | 3,549·0 | 4,250·8 |
| 1898 | 297·9 | 47·7 | 355·9 | 1·6 | 3,422·5 | 4,125·6 |
| 1899 | 287·5 | 52·4 | 337·2 | 1·0 | 3,282·6 | 3,960·7 |
| 1900 | 278·9 | 54·3 | 316·8 | 1·2 | 3,442·8 | 4,094·0 |

It will be seen from the above table that, in spite of the growth of population, there has been a marked diminution in the actual number of offenders during the last ten years, the continuity of the fall being broken, however, in 1892, and again in 1900. When the returns are compared on the basis of population the decline in the proportion of offenders per 100,000 inhabitants is shown to have been remarkably steady, the rate falling from 5,913·1 in 1891 to 4,094·0 in 1900. The figures for 1900, however, show an advance on those for the preceding year, principally arising from the preponderance of offences against good order. The figures relating to the individual classes of offences are somewhat disturbed by those checks incidental to all progress, but it will be found that the rates for all classes of crimes have fallen in the course of the ten years.

The following table gives a classification of the offences for which summary convictions were obtained during 1900. Of every 100,000 males in the state, 5,660 were summarily convicted; and of every 100,000 females, 1,025 were similarly dealt with. The offences of which the females were found guilty were naturally less serious than those committed by the males. As the table shows, the number of

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offences against the person and against property with or without violence was 645 per 100,000 males and 83 per 100,000 females.

| Offences. | Summary Convictions. | | | Per 100,000 of Population. | | |
|---|---|---|---|---|---|---|
| | Males. | Females. | Persons. | Males. | Females. | Persons. |
| Offences against the person | 1,748 | 202 | 1,950 | 245 | 31 | 144 |
| Offences against property, with violence | 353 | 56 | 409 | 49 | 9 | 30 |
| Offences against property, without violence | 2,511 | 273 | 2,784 | 351 | 43 | 205 |
| Forgery and offences against the currency | .... | .... | .... | .... | .... | .... |
| Offences against good order | 28,271 | 5,240 | 33,511 | 3,956 | 819 | 2,472 |
| Offences not included in the preceding | 7,572 | 791 | 8,363 | 1,059 | 123 | 617 |
| Total | 40,455 | 6,562 | 47,017 | 5,660 | 1,025 | 3,468 |

A table affording a comparison between the punishments inflicted on summary conviction in the lower courts during the last ten years would be of great interest, but unfortunately the returns do not permit of its compilation with the necessary degree of accuracy. There is, however, sufficiently reliable information to show that, although the proportion of persons sentenced to peremptory imprisonment was somewhat higher in the five years 1896–1900 than in the five preceding years, to a slight extent a tendency has been evinced of late years to punish an offender in other ways than that of consigning him to gaol without the option; while in the case of those persons who were given the option of paying a fine or finding security, or of working their sentence out in gaol, it is also clear that during the last five years, doubtless owing to the scarcity of money, the proportion able to pay the fine has fallen, and the proportion imprisoned in default risen. Below will be found a statement of the punishments inflicted on summary conviction in 1900:—

| Offences. | Fines Paid. | Imprisoned in default. | Peremptorily Imprisoned | Bound over. | Other Punishments. | Total. |
|---|---|---|---|---|---|---|
| Offences against the person | 1,186 | 432 | 283 | 39 | 10 | 1,950 |
| Offences against property, with violence | 215 | 184 | 7 | 2 | 1 | 409 |
| Offences against property, without violence | 771 | 483 | 1,455 | 65 | 10 | 2,784 |
| Forgery and offences against the currency | .... | .... | .... | .... | .... | .... |
| Offences against good order | 15,887 | 15,055 | 1,237 | 135 | 1,197 | 33,511 |
| Offences not included in the preceding | 7,134 | 762 | 426 | 1 | 40 | 8,363 |
| Total | 25,193 | 16,916 | 3,408 | 242 | 1,258 | 47,017 |

As shown above, the number of convicted persons sentenced to peremptory imprisonment was 3,408, and adding those incarcerated in default of paying the fine or of finding security, viz., 16,916, the total number imprisoned was 20,324, out of 47,017 summarily convicted by the magistrates, or 43·23 per cent. The number of fines paid was 25,193; but it is probable that some of those who were imprisoned in default of immediately paying the fine imposed were discharged before the term had expired, the amount having been paid in the meanwhile. The total sum received by way of fines during 1900 was £22,510, of which

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amount £12,549 was paid into the Consolidated Revenue, £6,265 was given to the Police Reward Fund, and £3,696 was paid to the Transit Commissioners, benevolent institutions, municipalities, and informers. The amount of the fines received during each year since 1891 is given below. With the exception of the amounts for the years 1895 to 1900 the sums are exclusive of rewards paid to informers and of fines going to municipalities and other corporate bodies :—

| Year. | Amount. | Year. | Amount. |
|---|---|---|---|
| | £ | | £ |
| 1891 | 25,955 | 1896 | 19,313 |
| 1892 | 24,450 | 1897 | 20,749 |
| 1893 | 21,934 | 1898 | 23,103 |
| 1894 | 17,915 | 1899 | 21,596 |
| 1895 | 22,011 | 1900 | 22,510 |

Under the Criminal Law Amendment Act (46 Vic. No. 17), provision has been made for whipping as an additional punishment, chiefly for wanton and unprovoked assault and for indecent exposure. The Bench must consist, in the metropolitan district, of two Stipendiary Magistrates ; and in the country districts, of a Stipendiary or Police Magistrate and one or more Justices of the Peace. In no case was whipping added to a sentence of imprisonment passed in a magistrate's court during the year 1900.

The First Offenders' Probation Act of 1894 (57 Vic. No. 23), containing provisions similar to those which have proved of so much value in the treatment of crime in older countries, came into operation on the 1st June. Under this enactment a youthful offender who has been convicted of an offence committed under sudden temptation may be given an opportunity of showing by his future conduct that his aberration was only temporary, and with this object in view the prevention of contamination by gaol associations is provided for. The person whose case is dealt with in this manner by the presiding magistrate or judge is not required to serve the sentence passed upon him, but is liberated on entering into a recognisance, with or without sureties, for his good behaviour during the period over which his sentence extends, the probationary term, however, being not less than one year in every case. Before he is permitted to depart from custody he is examined for future identification, and during the period covered by his sentence he must report himself to the police every three months. If he should fail to do so, or should again lapse into crime, he may be arrested and committed to gaol for that portion of his sentence which is still to run ; but should his behaviour be good throughout the whole of the probationary period he is not regarded as having been convicted, and if at any time later on he is arrested for another offence a previous conviction cannot be put in against him. During the year 1900, 65 persons summarily convicted were released under the provisions of the First Offenders' Probation Act, and in the table showing the punishments

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inflicted these persons have been included under the heading of "Bound Over." In one or two cases an offender so dealt with by the magistrate was unable to find sureties, and in default had to go to prison. In 1899 there were 8 persons treated as first offenders, of whom 5 had been convicted once previously, and 2 four times previously, while one man had no less than 7 previous convictions recorded against him. In 1900 there were 9 convicted persons treated as first offenders, of whom 4 had one previous conviction, 2 had two previous convictions, 2 had three previous convictions, and 1 male offender had been four times previously convicted. With regard to this two conclusions may be drawn—either that judges have been over lenient in dealing with the accused, or the means of identification are so inadequate that the prisoners were able to pose as first offenders.

A comparison of the persons convicted in courts of summary jurisdiction during the last ten years is afforded by the table given below. For the seven years, 1894 to 1900, the actual figures are given; for the preceding years an estimate has been formed:—

| Year. | Offenders against the person. | | Offenders against property. | | Other Offenders. | |
|---|---|---|---|---|---|---|
| | Number. | Per 100,000 of Population. | Number. | Per 100,000 of Population. | Number. | Per 100,000 of Population. |
| 1891 | 2,525 | 221·1 | 3,055 | 267·5 | 45,186 | 3956·6 |
| 1892 | 2,838 | 241·1 | 3,668 | 311·6 | 44,828 | 3808·7 |
| 1893 | 2,558 | 212·6 | 3,484 | 289·6 | 43,972 | 3654·7 |
| 1894 | 2,083 | 169·8 | 3,474 | 283·2 | 40,653 | 3313·5 |
| 1895 | 1,863 | 148·9 | 3,417 | 273·2 | 41,614 | 3327·1 |
| 1896 | 1,852 | 145·8 | 3,458 | 272·1 | 40,183 | 3162·5 |
| 1897 | 1,836 | 142·3 | 3,141 | 243·4 | 39,718 | 3078·0 |
| 1898 | 1,940 | 147·8 | 3,333 | 254·0 | 39,603 | 3017·5 |
| 1899 | 1,859 | 139·4 | 3,212 | 240·9 | 38,906 | 2917·3 |
| 1900 | 1,950 | 143·8 | 3,193 | 235·6 | 41,874 | 3088·7 |

The foregoing figures show that during the ten years there has on the whole been a marked diminution in the number of summary convictions by magistrates, as well as in the rate per 100,000 of population—and that, too, in face of the constant passing of new Acts, breaches of which are punishable by fine, and the growing tendency to dispose of cases in the lower courts. Since the appointment of Stipendiary Magistrates in the Metropolitan district there has been a greater proportion of cases summarily dealt with, while it is also noticeable that the proportion of acquittals and discharges has greatly fallen off. Prior to 1880, it may be said that about 25 per cent. of the persons brought before magistrates were discharged, while in no year shown since 1885 was the proportion more than 16·6 per cent. until 1895, when the figures reached 20·2. Since that year the percentage has again declined, falling as low as 14·9 in 1900. The following table shows the

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proportion of summary convictions by magistrates, of acquittals and discharges, and of committals to higher courts :—

| Year. | Summary Convictions. | Acquittals and Discharges. | Committals to Higher Courts. |
|---|---|---|---|
| | per cent. | per cent. | per cent. |
| 1870 | 69·0 | 24·7 | 6·3 |
| 1875 | 70·1 | 25·3 | 4·6 |
| 1880 | 76·9 | 18·4 | 4·7 |
| 1885 | 82·9 | 14·1 | 3·0 |
| 1890 | 80·4 | 16·0 | 3·6 |
| 1891 | 81·6 | 14·8 | 3·6 |
| 1892 | 80·3 | 16·6 | 3·1 |
| 1893 | 80·4 | 16·0 | 3·6 |
| 1894 | 82·9 | 13·1 | 4·0 |
| 1895 | 77·4 | 20·2 | 2·4 |
| 1896 | 80·5 | 17·1 | 2·4 |
| 1897 | 79·4 | 18·0 | 2·6 |
| 1898 | 80·9 | 16·7 | 2·4 |
| 1899 | 81·3 | 16·3 | 2·4 |
| 1900 | 83·1 | 14·9 | 2·0 |

## Apprehensions.

It has already been explained that the returns of the police are somewhat overstated, and in order to obtain the actual number of persons apprehended it is necessary to reduce the figures compiled by them. This has therefore been done in the following table, showing the number of persons arrested during each of the last ten years, with the proportion per 100,000 of population. For the last seven years the number of arrested persons brought before magistrates has been taken, while for the preceding years the figures have been estimated by a process which leaves little doubt of their close approach to absolute accuracy. It will be seen that the rate per 100,000 inhabitants shows a satisfactory decline during the period, and that it is now only about four-fifths of the proportion in 1891 :—

| Year. | Arrests. | | Year. | Arrests. | |
|---|---|---|---|---|---|
| | Number. | Per 100,000 of Population. | | Number. | Per 100,000 of Population. |
| 1891 | 40,012 | 3,504 | 1896 | 36,642 | 2,884 |
| 1892 | 40,445 | 3,436 | 1897 | 35,443 | 2,747 |
| 1893 | 38,562 | 3,205 | 1898 | 35,864 | 2,732 |
| 1894 | 36,044 | 2,938 | 1899 | 35,837 | 2,687 |
| 1895 | 36,939 | 2,953 | 1900 | 37,462 | 2,763 |

In 1898 a new departure was made in the method of dealing with apprehensions. Prior to that year it was found possible to give only the total number of persons apprehended, but with the more detailed information now collected on the arrest cards, the number of distinct

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persons represented by the total apprehensions can also be ascertained. In the succeeding tables dealing with ages, birthplace, religion and education of offenders, therefore, it will be understood that the figures refer to distinct persons.

## AGES OF OFFENDERS.

The ages of persons arrested for various classes of offences during the year 1900 are given below. It will be seen that the most serious offences were charged against persons between the ages of 25 and 30, and that it was this age-group which yielded the largest proportion of offenders of all kinds:—

| Offences. | Ages. | | | | | | | | | | | Total Apprehensions. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Under 10. | 10 and under 15. | 15 and under 20. | 20 and under 25. | 25 and under 30. | 30 and under 35. | 35 and under 40. | 40 and under 45. | 45 and under 50. | 50 and upwards. | Not stated. | |
| | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. |
| Against the person | 5 | 25 | 170 | 340 | 549 | 339 | 265 | 185 | 120 | 151 | .. | 2,149 |
| Against property, with violence | 8 | 32 | 64 | 66 | 153 | 68 | 57 | 51 | 38 | 41 | .. | 578 |
| Against property, without violence | 37 | 382 | 583 | 420 | 677 | 446 | 326 | 278 | 162 | 289 | .. | 3,600 |
| Forgery and offences against the currency | .. | .. | 7 | 6 | 9 | 10 | 2 | 5 | 2 | 5 | .. | 46 |
| Against good order, including drunkenness | 2 | 74 | 960 | 1,913 | 3,056 | 2,768 | 2,890 | 2,697 | 1,966 | 4,008 | 4 | 20,328 |
| Not included in the preceding | 3 | 19 | 103 | 221 | 239 | 112 | 102 | 60 | 57 | 62 | 3 | 981 |
| Total | 55 | 532 | 1,877 | 2,966 | 4,683 | 3,743 | 3,642 | 3,276 | 2,345 | 4,556 | 7 | 27,682 |

The proportion of offences committed at different ages varies very little from year to year. In the following table this proportion is shown for the year 1900:—

| Ages. | Persons Apprehended. | | | Per 100,000 of mean population of each age group. | | |
|---|---|---|---|---|---|---|
| | Males. | Females. | Total. | Males. | Females. | Total. |
| | No. | No. | No. | No. | No. | No. |
| Under 10 years | 53 | 2 | 55 | 29 | 1 | 14 |
| 10 years and under 15 | 508 | 24 | 532 | 699 | 32 | 360 |
| 15 ,, 20 | 1,645 | 232 | 1,877 | 2,598 | 346 | 1,440 |
| 20 ,, 25 | 2,485 | 481 | 2,966 | 3,662 | 731 | 1,217 |
| 25 ,, 30 | 4,060 | 623 | 4,683 | 5,786 | 1,076 | 3,657 |
| 30 ,, 35 | 3,252 | 491 | 3,743 | 5,326 | 1,086 | 3,427 |
| 35 ,, 40 | 3,210 | 432 | 3,642 | 6,786 | 1,284 | 4,498 |
| 40 ,, 45 | 2,920 | 356 | 3,276 | 7,926 | 1,299 | 5,099 |
| 45 ,, 50 | 2,147 | 198 | 2,345 | 6,774 | 861 | 4,287 |
| 50 years and upwards | 4,146 | 410 | 4,556 | 5,134 | 735 | 3,338 |
| Not stated | 7 | ... | 7 | ... | ... | ... |
| Total | 24,433 | 3,249 | 27,682 | 3,418 | 508 | 2,044 |

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## Birthplaces of Offenders.

At the census of 1891 the persons born in New South Wales formed 65 per cent. of the total population; while of the 27,682 males and females arrested during the year 1900, only 11,125, or 40·2 per cent., were born in the state. These figures are not, however, to be taken by themselves as proving the law-abiding character of the native-born as compared with the remainder of the community, as the bulk of the people under 21 years of age are by birth Australian, while males largely predominate over females among the British and foreign-born residents within the state. With the steady increase in the number of those born within the boundaries of New South Wales, there has naturally been a corresponding increase in the proportion contributed by them to the total number of apprehensions, the figures in 1900 being 40·2 per cent. as against 32·8 per cent. in 1891; and, similarly, the proportion of arrests of persons born in other parts of Australasia has risen in this state from 8·6 per cent. to 11·4 per cent. in the same period; while a decline in the proportion of persons of other than Australian birth resident in New South Wales has been accompanied by a decrease in the proportion of apprehensions contributed by them, the figures falling from 58·5 per cent. to 48·4 per cent. during the past decade.

But little can be gained by a comparison of offences with the number of persons of each nationality, as the bulk of the offences are committed by the adults, who comprise only two-fifths of the native-born as against nearly 90 per cent. of the residents of other nationalities. Taking only the adult males committed to gaol, and comparing them with the adult male population, the most law-abiding portion of the community are the much-abused Chinese, who show 7 convictions per 10,000. Next come the native-born inhabitants of New South Wales, with 11 per 10,000; then the South Australians, with 13; the Victorians, with 15; the Tasmanians, with 16; the English, with 17; the Germans, with 17; the New Zealanders, with 19; the Scotch, with 20; natives of India, with 24; the Irish, with 25; the Italians, with 26; the Danes, with 35; the Russians, with 37; the French, with 50; the Swedes and Norwegians, with 51; and natives of the United States, with 71. Even these figures, though deduced from proper data, require some explanation. The offenders belonging to the United States and to Scandinavia are for the most part sailors, whose offences should not be charged against the general population; some of the French are recidivistes from New Caledonia; and, indeed, it may be said that the offences do not arise from the nationality of the offender, but from his ignorance, his poverty, or his environment. In connection with this subject, it may be remarked that natives of countries which show a low average of comparative criminality exhibit in the state a rate of apparent

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lawlessness difficult to understand except on the supposition that a freer life and a larger remuneration have awakened dormant tendencies which otherwise would not have developed. It must be admitted, however, that the immigrant and sea-faring population from other countries do not necessarily represent the most law-abiding portion of the community from which they spring.

The native countries of distinct persons arrested in 1900 will be found in the following table:—

| Birthplaces. | Offences. | | | | | | Total Apprehensions |
|---|---|---|---|---|---|---|---|
| | Against the person. | Against property, with violence. | Against property, without violence. | Forgery and offences against the currency. | Against good order. | Not included in the preceding. | |
| | No. | No. | No. | No. | No. | No. | No. |
| New South Wales | 1,097 | 315 | 2,135 | 22 | 7,302 | 254 | 11,125 |
| Victoria | 130 | 19 | 211 | 4 | 1,177 | 38 | 1,579 |
| Queensland | 32 | 7 | 74 | 1 | 244 | 11 | 369 |
| South Australia | 34 | 5 | 68 | 1 | 428 | 6 | 542 |
| Other Commonwealth States and New Zealand | 48 | 18 | 91 | 2 | 486 | 23 | 668 |
| England | 271 | 78 | 453 | 10 | 3,827 | 183 | 4,817 |
| Scotland | 84 | 26 | 126 | .... | 1,393 | 55 | 1,684 |
| Ireland | 193 | 55 | 197 | 1 | 3,637 | 74 | 4,157 |
| Other British possessions | 27 | 6 | 43 | 1 | 198 | 61 | 336 |
| France | 13 | 5 | 13 | .... | 126 | 35 | 192 |
| Germany | 43 | 11 | 36 | 2 | 343 | 43 | 478 |
| China | 29 | 6 | 29 | .... | 126 | 35 | 225 |
| Norway and Sweden | 35 | 10 | 27 | .... | 396 | 56 | 524 |
| United States | 44 | 5 | 51 | .... | 273 | 26 | 399 |
| Other Foreign | 69 | 17 | 46 | 2 | 370 | 81 | 585 |
| At Sea | .... | .... | .... | .... | 2 | .... | 2 |
| Total | 2,149 | 578 | 3,600 | 46 | 20,328 | 981 | 27,682 |

At present there seems room for legislation with a view to restrict the influx into the state of the criminal class from elsewhere. Compared with some of the other states, New South Wales labours under a serious disadvantage in this respect. As the table shows, 11,125 or 40·2 per cent. of the persons apprehended were natives of this State, while the other provinces of Australasia contributed 3,158, or 11·4 per cent. of the total. New South Wales is unfortunately not protected by legislation restricting the influx of criminals from outside her borders, and it is a well-known fact that some of the most desperate characters with which the judicature of this State has to deal have made their way here from other parts of the continent.

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## Religion of Offenders.

The nominal religious profession of each person arrested is ascertained and entered in the charge-sheet. During 1900 the arrests of distinct persons belonging to each of the various denominations were :—

| Religions. | Offences. | | | | | | Total Apprehensions. |
|---|---|---|---|---|---|---|---|
| | Against the person. | Against property, with violence. | Against property, without violence. | Forgery and offences against the currency. | Against good order. | Not included in the preceding. | |
| | No. | No. | No. | No. | No. | No. | No. |
| Church of England | 793 | 217 | 1,571 | 22 | 7,295 | 309 | 10,207 |
| Roman Catholic | 979 | 268 | 1,436 | 17 | 9,360 | 355 | 12,415 |
| Presbyterian | 147 | 42 | 246 | 3 | 1,925 | 65 | 2,428 |
| Wesleyan | 61 | 10 | 148 | 2 | 383 | 28 | 632 |
| Congregational | 6 | 3 | 15 | .... | 46 | 2 | 72 |
| Baptist | 9 | 1 | 12 | .... | 76 | 8 | 106 |
| Lutheran | 54 | 14 | 34 | .... | 537 | 110 | 749 |
| Salvation Army | 2 | .... | 6 | .... | 11 | .... | 19 |
| Other Christian Denominations | 14 | 1 | 25 | .... | 104 | 7 | 151 |
| Hebrew | 3 | 2 | 20 | .... | 48 | 10 | 83 |
| Mahommedan | 9 | 2 | 7 | 1 | 19 | 30 | 68 |
| All others | 72 | 18 | 80 | 1 | 524 | 57 | 752 |
| Total | 2,149 | 578 | 3,600 | 46 | 20,328 | 981 | 27,682 |

It is found that no great reliance can be placed on the statements of many of the persons who are arrested as to the religious belief which they nominally profess, as in some instances offenders are found to have returned themselves as of three or more different religions in the course of a year; but allowing for all such persons the foregoing may be taken as a fair statement of the creeds adopted by offenders. The table shows a large excess of Roman Catholic offenders. This denomination numbers about 25·5 per cent. of the population, while the proportion of persons so returning themselves was 44·8 per cent. of the total offenders—a condition of things which has obtained for many years, and which has in all probability been due to the lower social condition of the members of the Roman Catholic community.

## Education of Offenders.

The degree of education of those who were arrested has also been obtained as far as possible. Four grades of education were formerly adopted for classification purposes, but in consequence of the difficulty of defining the term "Superior Education" that classification has been abandoned, and as the amount of education possessed by persons who are said to be able to read only must be very slight, the distinction between this class and the completely illiterate has not been attempted.

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The educational status of distinct persons arrested during 1900 is shown below :—

| Offences. | Degree of Education. | | | | | | Total Apprehensions. |
|---|---|---|---|---|---|---|---|
| | Illiterate. | | | Read and Write. | | | |
| | Males. | Females | Total. | Males. | Females. | Total. | |
| | No. | No. | No. | No. | No. | No. | No. |
| Against the person | 96 | 5 | 101 | 1,917 | 131 | 2,048 | 2,149 |
| Against property, with violence | 25 | 1 | 26 | 501 | 51 | 552 | 578 |
| Against property, without violence | 123 | 14 | 137 | 3,090 | 373 | 3,463 | 3,600 |
| Forgery and offences against the currency | 3 | ..... | 3 | 38 | 5 | 43 | 46 |
| Against good order, including drunkenness | 756 | 81 | 837 | 16,917 | 2,574 | 19,491 | 20,328 |
| Not included in the preceding | 61 | 6 | 67 | 906 | 8 | 914 | 981 |
| Total | 1,064 | 107 | 1,171 | 23,369 | 3,142 | 26,511 | 27,682 |

The proportion of persons of 20 years and upwards in the community who are able to read and write is estimated to be about 95·6 per cent., while in 1900 the proportion of persons arrested who were so far educated was 95·8 per cent. From these figures a hasty conclusion might be drawn that the progress of education has not been attended with that decrease in crime which its friends confidently expected to follow in its train. But it must always be remembered that although the proportion of persons arrested who can read and write has much increased of late years, such increase is merely a proof of the spread of education, even amongst those whose environment offers inducements to the commission of crime.

The best proof of the effect of the spread of education on crime is the notable decrease which has for many years been observable in the number of committals and convictions for serious offences. Although the direct effect of the spread of enlightenment cannot be gauged by figures, there is ample evidence to warrant the assumption that education is doing its work as an active leaven for good throughout the community.

## Drunkenness.

During 1900 the arrests for drunkenness, with and without disorderly conduct, numbered 20,418, or 54·5 per cent. of the total number of arrests, as compared with 19,300 arrests, and a proportion of 53·8 per cent., for the previous year. There were also 585 persons proceeded against by summons for this offence, as against 638 in 1899. The total

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number of cases of drunkenness dealt with by the police was, therefore, 21,003, as compared with 19,938 in the previous year. The proportion of cases of drunkenness per 100,000 of population was 1,551, an increase of 56 on the figures for the preceding year. The following table shows the number of arrests and summons cases for drunkenness in the metropolitan and extra-metropolitan districts :—

| Cases of Drunkenness. | Metropolitan District. | Extra-Metropolitan District. | Total. |
|---|---|---|---|
| | No. | No. | No. |
| Apprehensions ..... | 11,918 | 8,500 | 20,418 |
| Summons Cases..... | 113 | 472 | 585 |
| Total..... | 12,031 | 8,972 | 21,003 |

Persons arrested for drunkenness are chiefly residents of large towns, and it is only natural to expect that with an increase in the population of the towns there should be an increase in the apprehensions for drunkenness. A comparison of the arrests during the last ten years, as well of the summons cases, is given in the following table, and it is satisfactory to note that there has been a decrease in proportion to the population. Too much stress, however, could not be laid upon the falling off in arrests if there were not other evidence of the decrease of drunkenness, as a word of instruction from the Inspector-General of Police could, according to its tenor, increase or decrease the number of persons apprehended on this charge; but the decline in proportion of arrests has been coincident with a marked decrease in the consumption of intoxicants, so that it may be fairly assumed that drunkenness is on the wane :—

| Year. | Apprehensions for Drunkenness. | | | Summons Cases for Drunkenness. | Total Cases of Drunkenness. | Cases of Drunkenness per 100,000 of Population. |
|---|---|---|---|---|---|---|
| | Males. | Females. | Total. | | | |
| 1891 | 15,638 | 3,454 | 19,092 | 1,013 | 20,105 | 1,760 |
| 1892 | 14,638 | 3,234 | 17,872 | 1,058 | 18,930 | 1,608 |
| 1893 | 13,694 | 3,397 | 17,091 | 718 | 17,809 | 1,480 |
| 1894 | 13,465 | 3,468 | 16,933 | 576 | 17,509 | 1,427 |
| 1895 | 14,108 | 3,609 | 17,717 | 662 | 18,379 | 1,469 |
| 1896 | 15,311 | 3,572 | 18,883 | 616 | 19,499 | 1,535 |
| 1897 | 15,131 | 3,542 | 18,673 | 653 | 19,326 | 1,498 |
| 1898 | 15,378 | 3,346 | 18,724 | 673 | 19,397 | 1,478 |
| 1899 | 15,974 | 3,326 | 19,300 | 638 | 19,938 | 1,495 |
| 1900 | 16,721 | 3,697 | 20,418 | 585 | 21,003 | 1,551 |

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The number of convictions obtained for drunkenness, with and without disorderly conduct, during the year 1900, was 20,901. In 6,243 of these cases, or 29·9 per cent., the offence was committed between 8 a.m. on Saturday and 8 a.m. on Sunday; and in 2,333 other cases, or 11·1 per cent. of the total, the offence was committed between 8 a.m. on Sunday and 8 a.m. on Monday. The number of convictions obtained for breaches of the Licensing Act during the year will be found below. It will be borne in mind that hotels are required by law to be closed on Sunday, although the licensees are allowed to sell to lodgers and *bonâ fide* travellers. As the arrests on Sunday show, the law is not greatly respected :—

| Convictions for Selling— | Metropolis. | Country. | New South Wales. |
|---|---|---|---|
| Liquor on Sunday, and keeping premises open upon that day ... | 140 | 109 | 249 |
| During prohibited hours other than upon Sunday ..... | 48 | 36 | 84 |
| Liquor without a license..... | 4 | 25 | 29 |
| Adulterated liquor ..... | ... | ... | ... |
| Total convictions obtained ... | 192 | 170 | 362 |

On pages 259 and 260 are given the number of public-houses licensed in the state, and the number of colonial wine licenses current during the last few years.

The average consumption per inhabitant of spirits, wines, and fermented liquors since 1891 is given in the following table; also the total quantity of all classes of intoxicants consumed, expressed in terms of proof spirit. It will be seen that the consumption of intoxicants per inhabitant has declined during the period covered by the table, the quantity in 1900 being over 14 per cent. less than in the first year shown :—

| Year. | Spirits. | Wines. | Beer. | Equivalent in Alcohol (proof). |
|---|---|---|---|---|
| | galls. | galls. | galls. | galls. |
| 1891 | 1·11 | 0·84 | 11·43 | 2·84 |
| 1892 | 1·00 | 0·87 | 10·94 | 2·68 |
| 1893 | 0·83 | 0·85 | 9·27 | 2·31 |
| 1894 | 0·77 | 0·80 | 9·02 | 2·18 |
| 1895 | 0·73 | 0·64 | 9·02 | 2·09 |
| 1896 | 0·74 | 0·62 | 9·21 | 2·12 |
| 1897 | 0·71 | 0·72 | 9·59 | 2·17 |
| 1898 | 0·75 | 0·64 | 9·91 | 2·22 |
| 1899 | 0·75 | 0·67 | 10·21 | 2·27 |
| 1900 | 0·82 | 0·67 | 11·00 | 2·44 |

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The question of the relative prevalence of drunkenness, as tested by the number of persons arrested for that offence in the different states, has received no little attention, and it has been made to appear that New South Wales in this regard holds a bad pre-eminence. The total cases of drunkenness and the number per 100,000 of population in the different states and in New Zealand, for the year 1900, were as given below :—

| State. | No of cases of drunkenness. | Per 100,000 of population. |
|---|---|---|
| New South Wales | 21,003 | 1,547 |
| Victoria | 15,878 | 1,347 |
| Queensland | 9,254 | 1,887 |
| South Australia | 2,255 | 605 |
| Western Australia | 3,070 | 1,748 |
| Tasmania | 625 | 352 |
| New Zealand | 7,319 | 958 |

The cases of drunkenness in New South Wales in 1900 were the highest recorded during the past ten years. In all the other Australasian provinces, with the exception of Tasmania, there were also increases on the totals for the preceding year. In comparing the drunkenness returns of the various states, it may be pointed out that an argument founded solely on the number of cases of drunkenness is misleading, for a great deal depends upon the state of the law and the manner in which it is administered. The extent of the area supervised must also be taken into consideration, for it is evident that the law will be less strictly enforced in the sparsely settled districts of Queensland, South Australia, and Western Australia, than in the more thickly populated parts of Australia. The quantity of intoxicants consumed per head of the community is, perhaps, a better guide, though not always a safe indication, unless the manners and customs of the people are also considered ; but where the habits of communities are so similar as is the case in regard to the Australasian provinces, the consumption per head is a tolerably fair test. As shown in the chapter on "Food Supply," the average consumption of alcohol of proof strength per inhabitant stood at 2·44 gallons in New South Wales ; 2·95 in Victoria; 2·72 in Queensland; 2·02 in South Australia; 5·19 in Western Australia ; 1·72 in Tasmania ; and 1·95 gallons in New Zealand ; the average for the Commonwealth being 2·64 gallons. The amount of alcohol consumed is greatest in Western Australia and Victoria, while in New South Wales it is somewhat below the average for the Commonwealth. In regard to Western Australia, in dealing with the consumption of intoxicants the circumstance that the males largely exceed the females must not be neglected. If a comparison were made as to the consumption per head, excluding females, the case against Western Australia would be very materially altered. The figures given, however, at once dispose of the theory so persistently put forward as to the excessive prevalence of drunkenness in New South Wales, and the more effectually when it is

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borne in mind that the number of males engaged in manual labour is far larger here than in most of the states with a more favourable record. Of late years there has been a growing tendency to regard this offence not so much in the light of a crime as of a disease. It has been frequently advocated that the dipsomaniac should not be sent to gaol to herd with criminals and have his weakened faculties subjected to their evil influence, but should be sent to an asylum specially built for his reception. The present system of dealing with the offence has proved to be practically worthless, as the same faces are constantly re-appearing before magistrates, in some cases more than a hundred times in the course of a few years. During 1900, out of a total of 17,030 distinct persons arrested for drunkenness, 3,104, or over 18·2 per cent., were brought up more than once. Of these, one man was arrested 32 times, another 21, another 19 times; while three women appeared respectively 23, 22, and 21 times in the course of the year. An examination of the criminal records of the state, over a period of years, also disclosed the rather startling fact that more than 40 per cent. of the gaol population commenced their career with an imprisonment on a charge of drunkenness.

With a view to a more rational and efficient method of dealing with inebriety, it is proposed to establish (1) a penitentiary for the casual drunkard class alone; and (2) an inebriate asylum at Long Island, in the Hawkesbury River, for the reception of those classed as habitual drunkards.

## INQUESTS.

In all cases of violent or unnatural death, death resulting from accident, sudden death, death in a hospital, and in cases of suicide, it is the duty of the Coroner for the district to hold an inquiry into the cause if he has reasonable grounds for believing that death was due to violence or other unnatural means, and for that purpose he is empowered to order the exhumation of a body if necessary, to summon jurors and witnesses, and to commit for trial a person found guilty by the jury of the crime of manslaughter or murder. Every death which takes place in gaol or in a lockup must be investigated, and it is also customary to hold an inquest on the bodies of all persons executed in gaol. In a district where no coroner has been appointed, or the officer is unable to hold the usual inquest, a magistrate may hold an inquiry; but owing to the fact that he is not empowered to commit a suspected person for trial, he must terminate the inquiry in all cases where facts are disclosed which point to the criminality of a person, and direct the police to prosecute at the nearest police court. The numbers of deaths during 1900, the causes of which were investigated by Coroners or Magistrates, were 1,080 of males and 281 of females, giving a total of 1,361 inquests and magisterial inquiries. The finding of the courts in 293 cases was that death was due to disease, and in 955 cases to violence, while the cause of death in 113 cases was not clearly defined.



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It is provided by Act 24 Vic. No. 10 that when any real or personal property has been destroyed or damaged by fire, the Coroner exercising jurisdiction in the district where the outbreak has occurred shall, if he consider the case to be a fit one for investigation, hold an inquiry with the object of ascertaining the origin of the fire. The procedure is similar to that followed in inquests held in connection with cases of death. The Coroner can, in accordance with the decision of his jury, commit a person for trial on a charge of arson. Inquiries were held during 1900 into the origin of 142 fires, and the verdict returned was one of accident in 23 cases, of arson in 25, of insufficient evidence in 93 cases, and of carelessness in 1 case. There are a Coroner and a Deputy-Coroner for Sydney, and 133 Coroners for the country districts, as well as one for the state generally.

### Superior Courts.—Criminal Jurisdiction.

A Judge of the Supreme Court presides over the Central Criminal Court of Gaol Delivery held at Sydney. All prisoners are tried by a jury of twelve, chosen by lot from the panel provided by the Sheriff. In capital cases the right to challenge, both by the Crown and by the accused, is limited, except for cause shown, to twenty jurors; and in cases other than those in which the sentence of death may be imposed, whether felonies or misdemeanours, the number challenged cannot exceed eight. Under Act 55 Vic. No. 5, which was assented to in December, 1891, a person accused of an indictable offence is privileged, but not compelled, to give evidence in his own behalf. Prior to the passing of this Act such a privilege was only granted to those charged with bigamy. At the close of the case for the prosecution an accused person may also make a statement in his defence without rendering himself liable to examination thereupon, either by counsel for the Crown or by the Court. The verdict of the jury must be unanimous, for even if eleven jurors were agreed their verdict could not be accepted. If the jury disagree in the first instance they may be locked up until they either come to a verdict or are discharged by the Court. If no verdict is returned the prisoner is liable to be tried again by another jury.

In addition to the supreme, civil, and criminal sittings of the Court held in Sydney, the Judges go on circuit once in each half-year, and hold Courts of Gaol Delivery, called Circuit Courts, for dealing with the more serious class of criminal cases, especially those in which the capital penalty is involved, and for hearing civil causes at certain circuit towns, viz.:—In the north, at Maitland, Tamworth, Armidale, and Grafton; in the west, at Mudgee, Bathurst, Dubbo, and Broken Hill; and in the south, at Goulburn, Yass, Wagga Wagga, Albury, Deniliquin, Young, and Hay.

The Courts of Quarter Sessions are presided over by Chairmen, who also perform the duties of Judges of the District Courts. There are seven Chairmen of Quarter Sessions; two of these preside over the

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Courts in the Metropolitan and Suburban and Hunter Districts, and one each in the following districts:—Southern, south-western, northern, north-western, and western. All offences except those involving the capital penalty are within the jurisdiction of the Court. On the trial of prisoners at Quarter Sessions, the Chairman, at the request of the prisoner's counsel, must reserve questions of law for the consideration of the Supreme Court, or he may so act *motu proprio*.

During the year 1900 there were 1,089 males and 84 females committed for trial in the Superior Courts of the state. Of these 1,173 persons, 1,143 were committed by magistrates, before whom they had been brought up at Petty Sessions; 30 by Coroners, 19 being accused of murder, 6 of manslaughter, and 5 of arson. The number of persons committed during any one year does not necessarily coincide with the number placed on trial during the same period, as some persons committed at the end of one year do not make their appearance until the following year. Excluding those against whom the Attorney-General declined to file a bill, there were 1,143 persons recorded in the returns of the Superior Courts of the state during 1900, 1,065 being males and 78 females. The following table shows the manner in which these accused persons were dealt with:—

| How dealt with. | Central Criminal and Circuit Courts. | | Courts of Quarter Sessions. | | All Superior Courts. | |
|---|---|---|---|---|---|---|
| | Males. | Females. | Males. | Females. | Males. | Females. |
| Convicted— | | | | | | |
| Sent to Gaol or Reformatory..... | 138 | 7 | 495 | 32 | 633 | 39 |
| Liberated under First Offenders' Act .... | 9 | 3 | 35 | 8 | 44 | 11 |
| Acquitted ..... | 87 | 9 | 258 | 16 | 345 | 25 |
| Jury disagreed ..... ..... | 1 | ... | 3 | 1 | 4 | 1 |
| Fined ..... | ... | ... | 8 | ... | 8 | ... |
| Bound over ..... | 4 | ... | 16 | ... | 20 | ... |
| Not proceeded against ..... ..... | 9 | 1 | 2 | 1 | 11 | 2 |
| Total persons ..... | 248 | 20 | 817 | 58 | 1,065 | 78 |

Classifying these accused persons according to the nature of the offences with which they were charged, it will be found that, both in the case of males and of females, offences against property without violence are the most numerous, followed by offences against the person. Below will be found a statement of the offences of which the 1,143

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persons dealt with in superior courts during 1900 were accused, with the rates per 100,000 of population :—

| Offences. | Males. | | Females. | | Persons. | |
|---|---|---|---|---|---|---|
| | Number | Per 100,000 of population. | Number | Per 100,000 of population. | Number | Per 100,000 of population. |
| Offences against the person | 345 | 48·3 | 21 | 3·3 | 366 | 27·0 |
| Offences against property with violence | 165 | 23·1 | 8 | 1·3 | 173 | 12·8 |
| Offences against property without violence | 455 | 63·6 | 44 | 6·9 | 499 | 36·8 |
| Forgery and offences against the currency | 45 | 6·3 | 2 | 0·3 | 47 | 3·4 |
| Offences against good order | 7 | 1·0 | 1 | 0·1 | 8 | 0·6 |
| Offences not included in preceding | 48 | 6·7 | 2 | 0·3 | 50 | 3·7 |
| Total | 1,065 | 149·0 | 78 | 12·2 | 1,143 | 84·3 |

The following statement shows the character of the principal offences for which prisoners were tried during each year since 1891, and affords material for interesting study. Cases which from various causes were not proceeded with are included under the heading of "Other Offences" in the table; while since 1892 the returns have allowed of the exclusion of those persons against whom the Attorney-General found no bill :—

| Offences. | 1891. | 1892. | 1893. | 1894. | 1895. | 1896. | 1897. | 1898. | 1899. | 1900. |
|---|---|---|---|---|---|---|---|---|---|---|
| Murder | 17 | 7 | 15 | 18 | 10 | 12 | 5 | 7 | 8 | 10 |
| Attempted murder | 7 | 6 | 7 | 4 | 4 | 3 | 4 | 5 | 3 | 3 |
| Manslaughter | 25 | 19 | 58 | 16 | 31 | 13 | 22 | 20 | 14 | 14 |
| Wounding maliciously, unlawfully. | 116 | 111 | 121 | 119 | 99 | 100 | 101 | 119 | 112 | 125 |
| Rape, and attempts to commit | 21 | 18 | 14 | 14 | 17 | 19 | 17 | 19 | 19 | 10 |
| Assaults on children | 16 | 26 | 18 | 8 | 36 | 36 | 53 | 13 | 13 | 21 |
| Indecent assaults | 43 | 48 | 40 | 30 | 20 | 21 | 39 | 52 | 49 | 44 |
| Unnatural offences | 20 | 29 | 15 | 12 | 6 | 12 | 10 | 16 | 30 | 13 |
| Arson | 22 | 21 | 17 | 33 | 27 | 22 | 11 | 15 | 14 | 16 |
| Robbery with violence, including garrotting. | 39 | 40 | 50 | 50 | 71 | 30 | 36 | 21 | 49 | 47 |
| Larceny and receiving stolen property. | 263 | 261 | 223 | 279 | 205 | 200 | 260 | 228 | 213 | 191 |
| Stealing in a dwelling, including burglary. | 84 | 154 | 78 | 85 | 73 | 69 | 70 | 72 | 48 | 57 |
| Forgery and uttering | 89 | 147 | 79 | 81 | 63 | 63 | 90 | 65 | 72 | 47 |
| Stealing from the person | 61 | 44 | 37 | 50 | 38 | 26 | 34 | 34 | 43 | 64 |
| Obtaining money, etc., under false pretences. | 73 | 57 | 52 | 48 | 46 | 46 | 56 | 35 | 41 | 33 |
| Embezzlement | 60 | 48 | 24 | 22 | 27 | 37 | 22 | 11 | 13 | 17 |
| Horse-stealing | 50 | 40 | 63 | 54 | 50 | 54 | 60 | 58 | 47 | 60 |
| Cattle-stealing | 35 | 19 | 15 | 17 | 25 | 51 | 28 | 24 | 29 | 29 |
| Sheep-stealing | 4 | 14 | 28 | 16 | 40 | 55 | 44 | 26 | 30 | 26 |
| Perjury | 14 | 46 | 31 | 3 | 23 | 16 | 6 | 15 | 12 | 8 |
| Other offences | 516 | 434 | 351 | 378 | 429 | 483 | 362 | 344 | 343 | 308 |
| Total Committals | 1,575 | 1,589 | 1,336 | 1,342 | 1,340 | 1,368 | 1,330 | 1,199 | 1,202 | 1,143 |

The scope of this work does not admit of the particulars of offences being set out in great detail, but if the returns be analysed it will be found that, as experience has shown elsewhere, the seasons have a

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marked effect upon conduct; besides this, however, there is apparently a periodicity in crimes sufficiently curious to afford food for speculation. Perhaps the strongest examples of this periodicity are in connection with crimes of blood, *i.e.*, those of murder, manslaughter, and maliciously wounding; and with crimes against females, and unnatural offences.

## GAOLS.

There are in New South Wales 58 gaols of all kinds; of these 8 are principal gaols, 15 minor gaols, and 35 police gaols. The total number of cells in all gaols is 2,522. The average daily number in confinement during 1900 was 1897. Until quite recently prisoners in gaol were classified into various groups, determined principally by length of sentence. The members of the different divisions associated with one another both at meals and in the particular prison-yard allotted to them for exercise. This association for several hours during the day was undoubtedly productive of much mutual contamination, and it was chiefly with a view to minimising such evil that the system known as "restricted association" was introduced. A commencement was made in connection with Berrima Gaol, where the system was inaugurated on the 13th October, 1897. This method of working has now been extended to all the prisons, with the exception of Biloela, where the buildings are unsuitable, and Trial Bay, where it has not been employed in its entirety. Under this arrangement confinees take their meals in their cells and associate only at work, religious instruction, and exercise. At night the cells are lighted up till a reasonable hour, and well-conducted prisoners are allowed the privilege of reading wholesome and interesting books. Judging by the marked improvement already noticeable in gaol discipline, the system bids fair to be a gratifying success. On the 31st December, 1900, there were 1,897 prisoners, exclusive of debtors, in confinement, thus distributed :—

| Prisons. | Males. | Females. | Total. |
|---|---|---|---|
| Principal gaols ..... | 1,358 | 163 | 1,521 |
| Minor gaols ..... | 270 | 17 | 287 |
| Police gaols ..... | 84 | 5 | 89 |
| Total ..... | 1,712 | 185 | 1,897 |

The total number of prisoners received under sentence into the various gaols throughout the state during the year 1900 was 12,303, exclusive of debtors. Of these, 5,447 were received at Darlinghurst Gaol, Sydney.

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The following table gives the number of prisoners received into gaol under sentence for the last ten years with the proportion per 100,000 of mean population :—

| Year. | Males. | Females. | Total. | Per 100,000 of population. |
|---|---|---|---|---|
| 1891 | 9,553 | 3,257 | 12,810 | 1,122 |
| 1892 | 10,677 | 3,106 | 13,783 | 1,171 |
| 1893 | 10,704 | 3,149 | 13,853 | 1,151 |
| 1894 | 10,436 | 3,100 | 13,536 | 1,103 |
| 1895 | 10,472 | 3,130 | 13,602 | 1,087 |
| 1896 | 11,224 | 3,061 | 14,285 | 1,124 |
| 1897 | 9,923 | 2,851 | 12,774 | 990 |
| 1898 | 10,197 | 2,743 | 12,940 | 986 |
| 1899 | 9,547 | 2,546 | 12,093 | 907 |
| 1900 | 9,431 | 2,872 | 12,303 | 909 |

As the table shows, there has been a marked decrease in proportion to population of persons received into gaol during the ten-year period 1891–1900, but how far this is due to more enlightened penological methods, to the spread of education, and to general improvement in social condition it is difficult to estimate.

The average number of persons in confinement during the year has not been ascertained, but the number in detention at the close of each year is known, and the figures for ten years will be found in the following statement. Taking one year with another, these figures may be accepted as fairly representing the average daily number for each year given. Prisoners have been classified under two heads—those under sentence, and those awaiting trial, debtors being excluded.

| Year. | In confinement. | | | Under sentence. | Awaiting trial. |
|---|---|---|---|---|---|
| | Males. | Females. | Total. | | |
| 1891 | 2,325 | 291 | 2,616 | 2,489 | 127 |
| 1892 | 2,345 | 268 | 2,613 | 2,484 | 129 |
| 1893 | 2,232 | 208 | 2,440 | 2,295 | 145 |
| 1894 | 2,350 | 252 | 2,602 | 2,469 | 133 |
| 1895 | 2,257 | 240 | 2,497 | 2,345 | 152 |
| 1896 | 2,137 | 217 | 2,354 | 2,216 | 138 |
| 1897 | 2,015 | 242 | 2,257 | 2,136 | 121 |
| 1898 | 1,894 | 187 | 2,081 | 1,934 | 147 |
| 1899 | 1,798 | 186 | 1,984 | 1,864 | 120 |
| 1900 | 1,712 | 185 | 1,897 | 1,791 | 106 |

As in the case of the arrests, the largest number of prisoners at any age-period is of those whose ages range from 25 to 30 years, while proportionately to the population the age-group 40 to 45 years is most

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productive of criminals, with 2,335 per 100,000 inhabitants; followed by 35 to 40 years, with 2,257; 25 to 30 years, with 1,763; and 30 to 35 years, with 1,731 per 100,000 of population. The following table gives the number and ages of persons sentenced to penal servitude, labour, or imprisonment during the year 1900. Sentence of death was recorded against 6 male prisoners, but in three cases it was commuted to imprisonment for life. Included with the persons sentenced to be imprisoned without labour are 7 males and 2 females in the age group 9 to 15 years, who were sent to reformatories, while 1 female under 19, 1 male under 25, and 1 under 50 were sentenced to be imprisoned during the Governor's pleasure.

| Ages. | To Death. | | To Penal Servitude. | | To Imprisonment. | | | | | | Total Prisoners Sentenced. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | With Labour. | | | Without Labour. | | | | | |
| | Males. | Females. | Males. | Females. | Males. | Females. | Total. | Males. | Females. | Total. | Males. | Females. | Total. |
| 9 and under 15 .... | .. | .. | 1 | .. | 3 | .. | 3 | 42 | 2 | 44 | 46 | 2 | 48 |
| 15 „ 20 .... | 2 | .. | 3 | .. | 294 | 45 | 339 | 323 | 86 | 408 | 622 | 130 | 752 |
| 20 „ 25 .... | .. | .. | 10 | .. | 464 | 49 | 513 | 544 | 211 | 755 | 1,018 | 260 | 1,278 |
| 25 „ 30 .... | 1 | .. | 27 | .. | 702 | 87 | 789 | 1,033 | 407 | 1,440 | 1,763 | 494 | 2,257 |
| 30 „ 35 .... | .. | .. | 21 | .. | 490 | 122 | 612 | 776 | 431 | 1,207 | 1,287 | 553 | 1,840 |
| 35 „ 40 .... | 1 | .. | 6 | .. | 406 | 100 | 506 | 841 | 473 | 1,314 | 1,254 | 573 | 1,827 |
| 40 „ 45 .... | 1 | .. | 11 | .. | 319 | 75 | 394 | 771 | 323 | 1,094 | 1,102 | 398 | 1,500 |
| 45 „ 50 .... | 1 | .. | 8 | .. | 236 | 32 | 268 | 551 | 143 | 694 | 796 | 175 | 971 |
| 50 „ 55 .... | .. | .. | .. | .. | 149 | 26 | 175 | 383 | 81 | 464 | 532 | 107 | 639 |
| 55 „ 60 .... | .. | .. | 1 | .. | 117 | 18 | 135 | 255 | 57 | 312 | 373 | 75 | 448 |
| 60 and over ..... | .. | . | 1 | .. | 206 | 22 | 228 | 431 | 83 | 514 | 638 | 105 | 743 |
| Total ..... .. | 6 | .. | 89 | .. | 3,396 | 576 | 3,962 | 5,950 | 2,296 | 8,246 | 9,431 | 2,872 | 12,303 |

Taking the returns from all the gaols, it will be found that 7,713 distinct persons were convicted during the year 1900, of whom 6,667 were males, and 1,046 were females. The following table shows, in age groups, the number of distinct persons of the male sex who were convicted once and more than once during 1900, any convictions they may have undergone in previous years being disregarded. In the figures given the returns from all the gaols have been combined, and each person

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debited with the total number of sentences received, whether served in one prison or in more than one :—

| Ages. | Males Convicted during 1900, with Ages and Number of Times Convicted. | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 19 | Total. |
| 9 and under 10 | 3 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 |
| 10 ,, 11 | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 |
| 11 ,, 12 | 6 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 6 |
| 12 ,, 13 | 5 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 5 |
| 13 ,, 14 | 10 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 10 |
| 14 ,, 15 | 18 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 18 |
| 15 ,, 16 | 25 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 26 |
| 16 ,, 17 | 49 | 5 | 2 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 57 |
| 17 ,, 18 | 89 | 8 | 4 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 102 |
| 18 ,, 19 | 137 | 22 | 4 | 3 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 166 |
| 19 ,, 20 | 127 | 28 | 3 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 160 |
| 20 ,, 21 | 135 | 14 | 3 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 152 |
| 21 ,, 25 | 564 | 80 | 21 | 8 | 3 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 678 |
| 25 ,, 30 | 998 | 179 | 57 | 24 | 9 | 5 | .. | .. | 2 | 1 | .. | 2 | 1 | .. | .. | 1,278 |
| 30 ,, 35 | 656 | 132 | 49 | 21 | 12 | 8 | .. | 1 | 1 | .. | 1 | .. | .. | .. | .. | 881 |
| 35 ,, 40 | 612 | 128 | 46 | 18 | 15 | 3 | 4 | 3 | 1 | 1 | .. | 1 | .. | 1 | 1 | 832 |
| 40 ,, 45 | 545 | 115 | 30 | 16 | 6 | 4 | 2 | 4 | 2 | 1 | .. | 1 | .. | .. | .. | 728 |
| 45 ,, 50 | 416 | 66 | 21 | 20 | 4 | 5 | 2 | 4 | 1 | .. | .. | .. | .. | .. | 1 | 539 |
| 50 ,, 55 | 268 | 54 | 23 | 6 | .. | 2 | 2 | 1 | .. | 1 | .. | .. | .. | .. | .. | 358 |
| 55 ,, 60 | 190 | 36 | 8 | 6 | 4 | .. | .. | 2 | 3 | .. | .. | .. | .. | .. | .. | 249 |
| 60 ,, 65 | 156 | 21 | 9 | 6 | 3 | 2 | .. | 2 | .. | .. | .. | .. | .. | .. | .. | 199 |
| 65 ,, 70 | 84 | 18 | 5 | 5 | 3 | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | 117 |
| 70 ,, 75 | 45 | 7 | 3 | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 57 |
| 75 ,, 80 | 18 | 4 | 1 | 2 | .. | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 27 |
| 80 and upwards | 13 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 15 |
| Total.. .. | 5,173 | 919 | 289 | 140 | 60 | 32 | 11 | 17 | 10 | 4 | 3 | 5 | 1 | 1 | 2 | 6,667 |

These figures disclose some interesting facts. It is sad to see that the large number of 72 boys under 16 years of age had to be sent to gaol; but it is well known that the problem of dealing with juvenile offenders is one of the most serious and embarrassing that the magistrates have to cope with, especially as, until the month of August of the year 1895, there was no reformatory in the state to which boys of the criminal class could be sent. In the absence of such an institution, the magistrates, unwilling to subject boys of tender age to the contaminating influences of a gaol, generally ignored the criminal charges and sent them to the nautical school-ship Sobraon as deserted or neglected children. This, though the lesser of two evils, was manifestly unfair to the class of children for whom the Sobraon was primarily intended, and largely increased the difficulties of its management. Some few years ago extensive buildings were erected at Rookwood for the accommodation of criminal boys, but they were put to other uses. The

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Carpenterian Reformatory has now been established for boys who have been convicted of criminal offences. Particulars of the institution are given under Education and also Social Condition.

A remarkable feature of the foregoing table is the large number of persons sent to gaol more than once during the year. The prisoners with two or more convictions numbered 1,494, while their convictions were 4,258. The list of second convictions commences with a boy of under 16 years and ends with a man who had passed his eightieth year; the third convictions are headed by a lad under 17, and so on, as the list shows. Two men in the age-groups 35-40 and 45-50 respectively were convicted no less than 19 times, and 14 convictions were recorded against another prisoner in the age-group 35–40 during the year. The offence of drunkenness is mainly responsible for the somewhat large number of re-convictions, but the establishment of the proposed penitentiary and asylum for inebriates will, it is hoped, have the effect of checking these continual re-appearances. The number of males under 21 years of age sent to gaol was 709, and of these 101 were convicted more than once.

There were 1,046 females imprisoned during the year 1900, of whom the large proportion of 484, or 46·4 per cent., were convicted more than once. The convictions of girls under 21 years of age numbered 116, and of these 32 were imprisoned more than once. One woman was convicted as many as 22 times during the year, another had 21 convictions recorded against her, two were convicted 20 times, and two were convicted 19 times during the year. The following table shows the number of females imprisoned, their ages, and number of convictions during the year:—

| Ages. | Females Convicted during 1900, with Ages and Number of Times Convicted. | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | Total |
| 13 and under 14 .. | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 |
| 15 „ 16 .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 |
| 16 „ 17 .. | 7 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 8 |
| 17 „ 18 .. | 12 | 4 | 2 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 19 |
| 18 „ 19 .. | 19 | 5 | 1 | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 26 |
| 19 „ 20 .. | 23 | 9 | .. | .. | .. | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 34 |
| 20 „ 21 .. | 20 | 3 | .. | .. | 1 | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 26 |
| 21 „ 25 .. | 50 | 17 | 6 | 5 | 2 | .. | 2 | 1 | 1 | 1 | .. | 1 | .. | 1 | .. | .. | 1 | .. | .. | .. | .. | .. | 88 |
| 25 „ 30 .. | 103 | 29 | 13 | 9 | 4 | 6 | 2 | 3 | .. | 2 | .. | 3 | .. | 2 | .. | .. | 1 | .. | .. | 1 | 1 | 1 | 180 |
| 30 „ 35 .. | 90 | 27 | 18 | 10 | 4 | 3 | 5 | .. | 6 | 1 | 4 | 1 | 2 | 1 | 2 | .. | 2 | 1 | .. | .. | .. | .. | 177 |
| 35 „ 40 .. | 70 | 25 | 23 | 9 | 6 | 5 | 7 | 6 | 2 | 4 | 2 | 1 | 1 | 1 | .. | .. | 1 | 2 | 1 | .. | .. | .. | 166 |
| 40 „ 45 .. | 63 | 23 | 8 | 4 | 6 | 9 | 3 | 2 | 1 | 2 | 1 | 1 | 2 | .. | 2 | .. | .. | .. | .. | 1 | .. | .. | 128 |
| 45 „ 50 .. | 41 | 14 | 9 | 3 | 2 | 3 | .. | .. | 1 | .. | .. | .. | .. | 1 | .. | 1 | .. | .. | .. | .. | .. | .. | 75 |
| 50 „ 55 .. | 20 | 4 | 3 | 2 | 6 | 1 | 1 | 1 | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 39 |
| 55 „ 60 .. | 21 | 9 | 3 | 2 | .. | 2 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 38 |
| 60 „ 65 .. | 11 | 3 | 3 | 2 | 1 | 2 | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 24 |
| 65 „ 70 .. | 3 | 3 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 8 |
| 70 „ 75 .. | 5 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 6 |
| 75 „ 80 .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 80 and upwards .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 |
| Total .. .. | 562 | 177 | 91 | 47 | 33 | 34 | 22 | 13 | 11 | 10 | 8 | 8 | 5 | 6 | 4 | 1 | 5 | 3 | 2 | 2 | 1 | 1 | 1,046 |

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The following table shows the ages of distinct persons under the age of 21 years received into gaol during the five years 1896–1900. It will be seen that the figures for 1900 are less than those for the first year shown in the table, although they are in excess of those for the year 1899 :—

| Ages. | 1896. | | | 1897. | | | 1898. | | | 1899. | | | 1900. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | M. | F. | Total. | M. | F. | Total. | M. | F. | Total. | M. | F. | Total. | M. | F. | Total. |
| Under 10 years .. | 9 | 3 | 12 | 16 | 8 | 24 | 1 | .. | 1 | .. | .. | .. | 3 | .. | 3 |
| 10 and under 11 .. | 8 | 2 | 10 | 9 | .. | 9 | 3 | .. | 3 | 4 | 1 | 5 | 4 | .. | 4 |
| 11 „ 12 .. | 4 | 2 | 6 | 7 | 3 | 10 | 3 | .. | 3 | 3 | .. | 3 | 6 | .. | 6 |
| 12 „ 13 .. | 11 | 1 | 12 | 19 | 3 | 22 | 5 | .. | 5 | 3 | .. | 3 | 5 | .. | 5 |
| 13 „ 14 .. | 16 | 2 | 18 | 16 | 3 | 19 | 10 | .. | 10 | 11 | .. | 11 | 10 | 2 | 12 |
| 14 „ 15 .. | 21 | 3 | 24 | 19 | .. | 19 | 25 | .. | 25 | 15 | 1 | 16 | 18 | .. | 18 |
| 15 „ 16 .. | 46 | 3 | 49 | 37 | 4 | 41 | 18 | 2 | 20 | 34 | 1 | 35 | 26 | 1 | 27 |
| 16 „ 17 .. | 77 | 8 | 85 | 80 | 6 | 86 | 68 | 2 | 70 | 84 | 9 | 93 | 57 | 8 | 65 |
| 17 „ 18 .. | 120 | 12 | 132 | 116 | 17 | 133 | 126 | 8 | 134 | 120 | 8 | 128 | 102 | 19 | 121 |
| 18 „ 19 .. | 158 | 23 | 181 | 152 | 27 | 179 | 148 | 26 | 174 | 127 | 17 | 144 | 166 | 26 | 192 |
| 19 „ 20 .. | 171 | 26 | 197 | 170 | 40 | 210 | 132 | 31 | 163 | 145 | 21 | 166 | 160 | 34 | 194 |
| 20 „ 21 .. | 141 | 23 | 164 | 144 | 25 | 169 | 144 | 28 | 172 | 136 | 22 | 158 | 152 | 26 | 178 |
| Total .. .. | 782 | 108 | 890 | 785 | 136 | 921 | 683 | 97 | 780 | 682 | 80 | 762 | 709 | 116 | 825 |

The Shaftesbury Reformatory, situated near the south head of Port Jackson, was established for the reception of girls under 16 years of age who had fallen into crime, and at the end of 1900 there were 30 children in the institution for reformatory purposes.

The persons who figure in the preceding tables as having been convicted several times during the year are the drunkards, the vagrants, and the petty thieves. Naturally the more serious offenders are rarely afforded an opportunity of appearing before the Courts twice in one year.

A very large proportion of the prisoners received into gaol on summary conviction consists of persons who were imprisoned in default of payment of fines. Doubtless many of these were too poor to pay the fines, so that it would appear that their poverty was more accountable for their imprisonment than the actual breach of law committed by them. In 1900 an Act was brought into operation which permitted payment of fines by instalments, and also allowed reduction of term of imprisonment on consideration of paying portion of the amount.

The punishments awarded to offenders vary from nominal imprisonment to the supreme penalty of death. Prisoners under sentence of hard labour are, after examination by the medical officer, given such

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work as the prison authorities consider comes within the meaning of the sentence. Penal servitude is not awarded for a shorter term than three years. In the case of male prisoners it is taken to mean hard labour on the roads or other public works, and in the case of female prisoners, hard labour in gaol. The punishment is practically the same as hard labour. Prisoners undergoing a sentence of imprisonment without labour are treated differently from others, and if they entirely maintain and clothe themselves they are exempted from any work, otherwise they contribute to their own support by performing such labour as may be provided. Under section 405 of the Criminal Law Amendment Act a prisoner who has been convicted of a felony attended with violence to the person, or committed by the offender when armed, or by means of any threat, is liable to be kept in irons for a portion of his term of imprisonment, but not extending beyond the first three years.

The effect of punishment in reforming criminals, or in restraining them from the commission of crime, is a subject upon which a great deal has been written. It is certain that in New South Wales there has been a great decrease in crime, but it seems equally certain that this satisfactory state of things is due to an improvement in the material and intellectual condition of the whole community, and not to any deterrent effect which punishment has had upon the criminal.

A summary of sentences imposed upon offenders affords little clue to the gravity of the offences committed. Thus, for simple larceny the sentences of imprisonment ranged from under 2 days to under 5 years; for common assault, from under 2 days to 2 and under 5 years; for maliciously injuring property, from under 2 days to 2 and under 5 years; for receiving stolen property, from under 1 month to 5 and under 10 years; for begging alms, from under 2 days to under 6 months; and for perjury, from 1 to under 5 years. The great anomaly disclosed by these sentences might disappear if the circumstances attending each individual case were considered, but the scope of this work only admits of the facts in regard to the sentences themselves being recorded. There has been considerable discussion in recent years concerning the sentencing of prisoners. Some critics argue in favour of progressive sentences, while it is urged by others that the present system savours too much of mere revenge for wrong-doing, and the principle of indeterminate sentences is advocated. Under the latter method prisoners would be detained in gaol until such time as their moral reformation was complete, while the hopelessly incorrigible would suffer total deprivation of liberty. How to give practical effect to such a scheme presents obvious difficulties; nevertheless it seems only right for society to be protected more efficiently against the depredations of confirmed malefactors.

The following summaries give a classification for 1900, according to the length of the sentences and the nature of the offences; the two previous tables show the number of distinct persons sentenced, while the figures in the two following statements refer to the number of offences

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punished, the same person in some instances having been sentenced several times in the course of the year :—

| Offences. | Total Offences. | Imprisonment for— | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2 days and under. | 3 days and under 1 week. | 1 week and under 1 month. | 1 month and under 6. | 6 months and under 12. | 1 year and under 2. | 2 years and under 5. | 5 years & under 10. | 10 years & under 15. | During Governor's pleasure. | Until order complied with. | Sent to Reformatory. | Death. |
| Offences against the person..... | 798 | 13 | 9 | 211 | 377 | 64 | 35 | 59 | 19 | 2 | 1 | .. | 2 | 6 |
| Offences against property with violence.. | 203 | 1 | 9 | 62 | 57 | 12 | 18 | 30 | 11 | 1 | 1 | .. | 1 | .. |
| Offences against property without violence | 1,941 | 26 | 23 | 312 | 1,015 | 364 | 87 | 101 | 9 | .. | .. | .. | 4 | .. |
| Forgery and offences against the currency. | 33 | .. | .. | .. | 2 | 10 | 9 | 11 | 1 | .. | .. | .. | .. | .. |
| Offences against good order..... | 5,459 | 996 | 1,242 | 1,972 | 1,139 | 108 | 1 | 1 | .. | .. | .. | .. | .. | .. |
| Offences not included in the preceding..... | 997 | 74 | 133 | 430 | 312 | 9 | 14 | 7 | .. | .. | .. | 18 | .. | .. |
| Total offences committed by males..... | 9,431 | 1,110 | 1,416 | 2,987 | 2,902 | 567 | 164 | 209 | 40 | 3 | 2 | 18 | 7 | 6 |

It will be seen that the sentence of death was passed on six males. In three cases it was carried out, the prisoners being convicted of murder, and in the other three cases it was commuted to imprisonment for life. The executions in two instances were carried out in 1901. Of the persons included in the column "Until order complied with," 15 were wife and child deserters against whom there were unsatisfied maintenance orders, and of the remaining 3 persons 1 was ordered to be imprisoned under warrant for debt, and 2 for failure to comply with orders of the court.

The classification of sentences according to their length and the nature of the offences for which females suffered imprisonment in 1900 is given below. In 11 cases only, out of 2,872, was the length of sentence one year or over. The longest sentences passed on female offenders during the year appear in the group "2 years and under 5," one offender being charged with procuring miscarriage, and 2 others with stealing in company. In one instance only the penalty of imprisonment during the Governor's pleasure was suffered, and sentence of death was not recorded against any female during the year. The terms for which women are sentenced are much shorter than those of men, as their offences, generally speaking, are much lighter. As shown in the subjoined statement, the total offences of females during 1900 amounted to 2,872. Of these, 2,552, or nearly 89 per cent., represented offences

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against good order, such as drunkenness, riotous behaviour, using bad language, and vagrancy:—

| Offences. | Total Offences. | Length of Sentences. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 2 days and under. | 3 days and under 1 week. | 1 week and under 1 month. | 1 month and under 6. | 6 months and under 12. | 1 year and under 2. | 2 years and under 5. | During Governor's pleasure. | Sent to Reformatory. |
| Offences against the person | 62 | 3 | 1 | 29 | 25 | 1 | 2 | 1 | ... | ... |
| Offences against property with violence | 44 | 1 | 7 | 24 | 11 | ... | 1 | ... | ... | ... |
| Offences against property without violence | 191 | 1 | 1 | 51 | 98 | 30 | 5 | 2 | 1 | 2 |
| Forgery and offences against the currency | 2 | ... | ... | ... | 1 | 1 | ... | ... | ... | ... |
| Offences against good order | 2,552 | 200 | 563 | 1,233 | 511 | 45 | ... | ... | ... | ... |
| Offences not included in the preceding | 21 | 2 | 4 | 11 | 4 | ... | ... | ... | ... | ... |
| Total offences committed by females | 2,872 | 207 | 576 | 1,348 | 650 | 77 | 8 | 3 | 1 | 2 |

The existing buildings for the reception of female prisoners are unsatisfactory, both as regards facilities for segregating the various classes of offenders, and also on account of expenses of management. It is proposed, however, to establish a large metropolitan prison for females, where all but short-sentenced country prisoners could be dealt with on more economic and scientific lines.

Allusion has already been made to the number of persons with more than one conviction recorded against them during 1900. It is interesting to compare these figures with the records of previous years, which are given below for the last ten years. The table also gives a statement of the average number of offences committed by each person confined:—

| Year. | Prisoners sent to Gaol more than once. | | Offences Committed. | | Average number of Offences Committed. | |
|---|---|---|---|---|---|---|
| | Males. | Females. | Males. | Females. | Males. | Females. |
| 1891 | 1,285 | 584 | 3,431 | 2,457 | 2·7 | 4·2 |
| 1892 | 1,787 | 586 | 4,828 | 2,326 | 2·7 | 4·0 |
| 1893 | 1,642 | 567 | 4,141 | 2,328 | 2·5 | 4·1 |
| 1894 | 1,572 | 576 | 4,093 | 2,331 | 2·6 | 4·0 |
| 1895 | 1,573 | 577 | 4,249 | 2,338 | 2·7 | 4·1 |
| 1896 | 1,751 | 539 | 4,679 | 2,363 | 2·7 | 4·4 |
| 1897 | 1,478 | 514 | 3,944 | 2,115 | 2·7 | 4·1 |
| 1898 | 1,545 | 485 | 4,233 | 2,054 | 2·7 | 4·2 |
| 1899 | 1,511 | 470 | 4,177 | 1,932 | 2·7 | 4·1 |
| 1900 | 1,494 | 484 | 4,258 | 2,310 | 2·8 | 4·8 |

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From the evidence of the above table there would appear to be a constant re-appearance of the same faces before the courts to account for so high an average of re-convictions. The proportion of habitual offenders, if those with previous convictions may be so termed, is remarkable, and will perhaps be better illustrated by the following table than by the one just given. The returns only include convictions within the year named, convictions in a previous year being disregarded. If all convictions had been included, the proportion for 1900 would, in all likelihood, have been about 28 per cent. It must be borne in mind, however, that these figures are considerably swollen by the constant re-appearance in gaol of persons charged with the pseudo-crime of drunkenness. Out of 7,713 persons committed to prison during 1900, 2,342, or over 30 per cent., were incarcerated on this charge :—

| Year. | Percentage of prisoners with previous convictions. | Year. | Percentage of prisoners with previous convictions. |
|---|---|---|---|
| 1891 | 21·3 | 1896 | 23·5 |
| 1892 | 26·4 | 1897 | 22·5 |
| 1893 | 23·6 | 1898 | 23·4 |
| 1894 | 23·3 | 1899 | 24·9 |
| 1895 | 23·5 | 1900 | 25·6 |

The number of distinct persons committed to gaol under sentence during each of the past ten years is given in the following table. The number fluctuated considerably during the period under review, but there is ample evidence in this table, taken in conjunction with that on page 228, showing the trials in the superior courts, that crime is steadily diminishing :—

| Year. | Persons. | Year. | Persons. |
|---|---|---|---|
| 1891 | 8,791 | 1896 | 9,724 |
| 1892 | 8,957 | 1897 | 8,872 |
| 1893 | 9,369 | 1898 | 8,683 |
| 1894 | 9,215 | 1899 | 7,965 |
| 1895 | 9,165 | 1900 | 7,713 |

Under Act 4 Vic. 29 a Visiting Justice is appointed to visit each gaol. He is empowered to hear and determine all complaints which may be made against a prisoner of disobeying the rules of the gaol, or of having committed any offence, and may pass a sentence of confinement in a solitary cell for a term not exceeding seven days. In cases of persistent insubordination, a charge upheld before two or more Justices of the Peace renders the prisoner liable to a sentence of close confinement for one month ; and if the culprit is a prisoner convicted of felony, or serving a sentence of hard labour, a punishment of personal correction may be awarded. The prison returns show that whipping

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was administered in two cases in 1900. The number of punishments inflicted upon refractory prisoners during the last ten years is given as follows:—

| Year. | Prisoners punished in gaols. | | | Percentage of total prisoners punished. |
|---|---|---|---|---|
| | Solitary confinement. | Other punishments. | Total. | |
| 1891 | 1,235 | 304 | 1,539 | 10·1 |
| 1892 | 1,412 | 317 | 1,729 | 10·5 |
| 1893 | 1,053 | 234 | 1,287 | 10·9 |
| 1894 | 982 | 300 | 1,282 | 11·0 |
| 1895 | 1,077 | 228 | 1,305 | 11·1 |
| 1896 | 924 | 247 | 1,171 | 12·2 |
| 1897 | 1,146 | 226 | 1,372 | 12·4 |
| 1898 | 1,262 | 216 | 1,478 | 13·5 |
| 1899 | 1,166 | 120 | 1,286 | 12·8 |
| 1900 | 913 | 52 | 965 | 10·0 |

It is confidently expected that the new system of restricted association will have the effect of considerably reducing infractions of gaol discipline, since under its operations the evilly-disposed will have smaller opportunities of contaminating the better class of prisoners.

There were 62 persons—59 males and 3 females—imprisoned for debt during the year 1900. As the time of detention as a rule only extended over a short period, the number of debtors in confinement at any one time was not large, and on the 31st December, 1900, there were only 2 males in gaol for debt. The number of persons sent to gaol for debt during each of the last ten years will be found in the following table:—

| Year. | Males. | Females. | Total. | Year. | Males. | Females. | Total. |
|---|---|---|---|---|---|---|---|
| 1891 | 45 | ... | 45 | 1896 | 52 | 2 | 54 |
| 1892 | 54 | ... | 54 | 1897 | 50 | 1 | 51 |
| 1893 | 55 | 3 | 58 | 1898 | 81 | 4 | 85 |
| 1894 | 54 | 4 | 58 | 1899 | 53 | 1 | 54 |
| 1895 | 70 | 4 | 74 | 1900 | 59 | 3 | 62 |

The dietary scale in New South Wales prisons comprises bread, maize-meal, meat, vegetables, salt, sugar, and rice or barley. For males the quantity of bread supplied ranges from 12 oz. to 24 oz. daily, according to length of sentence and quality of labour performed, the minimum quantity being supplied to prisoners serving sentences not exceeding six months, and the maximum to prisoners serving sentences with harder labour, such as road-work, excavating, stone-cutting, blacksmithing, etc. The quantity of meat supplied ranges from 4 oz. to 16 oz. daily. To females, 8 oz. of bread and 4 oz. of meat are supplied where

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a sentence not exceeding six months is being served, and these quantities are increased to 16 oz. of bread and 12 oz. of meat where harder labour, such as washing, is performed. For prisoners in solitary confinement the daily allowance is restricted to 16 oz. of bread. Debtors, prisoners under civil process, those awaiting trial, under remand, or detained as witnesses for want of bail receive a diet of 16 oz. bread, 8 oz. maize-meal, 16 oz. meat, and small quantities of vegetables, salt, rice, sugar, etc.

The following table gives the number of the prisoners employed in the principal and minor gaols at the end of 1900, and those engaged in the principal callings. In some of the gaols there are no means of finding suitable employment of a profitable or useful nature, otherwise the number shown could be very much increased; and it must also be remembered that there are many prisoners whose services are not available for labour, such as those whose sentences do not carry hard labour, and those exempt from work on account of medical and other reasons. The net value of the labour done during 1900 amounted to £16,352, but this sum is taken to refer exclusively to labour of a productive character.

| | | | |
|---|---|---|---|
| Carpenters and assistants ... | 28 | Bookbinders ..... | 17 |
| Painters ..... | 12 | Writers ..... | 9 |
| Blacksmiths and assistants | 26 | Washing and Gardening ... | 60 |
| Tinsmiths ..... | 15 | School and Store assistants | 11 |
| Masons ..... | 5 | Hospital attendants ..... | 15 |
| Stonecutters and assistants | 5 | Barbers ..... | 5 |
| Labourers ..... | 141 | Needlework ..... | 99 |
| Brushmakers ..... | 7 | Sweepers and cleaners ..... | 200 |
| Matmakers ..... | 44 | Cooks' Assistants ..... | 91 |
| Shoemakers ..... | 82 | Other employments ..... | 668 |
| Tailors ..... | 95 | | |
| Hatmakers ..... | 27 | Total employed ..... | 1,662 |

Among those classed as engaged in "other employments" are included 47 prisoners working at the Trial Bay Breakwater. Prisoners under sentence of penal servitude, of hard labour on the roads and public works, or of imprisonment with hard labour, become eligible for employment upon the public works at Trial Bay Prison under the following conditions:—Prisoners under sentence of from three to five years, who have not been punished for misconduct within the previous six months, and are favourably recommended by their gaolers, at a period twelve months before they would become eligible for discharge under the ordinary remission regulations, and in anticipation of such discharge; under sentence of five to ten years, with similar conditions as regards conduct, at a period of two years anterior to discharge; and under sentence of ten years and upwards, at a period of two years and six months anterior to discharge. The construction of the breakwater is under the supervision of officers of the Public Works Department, but the prisoners who are engaged on the work are entirely under the control of the Prisons Department, and receive a small monetary remuneration, with the privilege also of wearing clothing which is not of the prison pattern.

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Besides the foregoing, there were at the close of the year 1900 as many as 237 prisoners who were not employed. The reasons for such exemption will be found in the following statement :—

| | | | |
|---|---|---|---|
| In hospitals ..... | 35 | Recent arrivals, not set to work | 24 |
| In cells ..... ..... | 6 | Under separate treatment ..... | 3 |
| Under medical treatment ... | 30 | Not under sentence (including debtors) ..... ..... | 110 |
| Exempt from work ..... | 7 | | |
| Prisoners' delegates..... | 10 | Under sentence of death..... ... | 2 |
| Incapable ..... | 10 | | |
| | | Total ..... ..... .. ... | 237 |

Persons whose cases have not yet been disposed of are allowed to see their legal advisers and others who may visit them in reference to their trial. It is not required that they shall wear prison clothing; and other privileges, consistent with safe custody, are granted to them. Persons under examination are not allowed to have any communication made to them while in the prison except by their legal advisers, unless such a proceeding is specially sanctioned by the Justice conducting the examination.

By continuous good conduct and industry prisoners become eligible for a remission of sentence, in accordance with the following scale :— Sentences exceeding twelve months but not exceeding five years, one-sixth of the term; sentences beyond five but not exceeding ten years, one-fifth of the term; and sentences of more than ten years, one-fourth of the term. Prisoners in gaol for the first time, undergoing sentences of over six months and not exceeding twelve months, may receive a remission of four days for each month; prisoners in gaol for the second time, undergoing sentences of over six months, and not exceeding twelve months, a remission of three days for each month; prisoners in gaol three or more times, undergoing sentences of over six months, and not exceeding twelve months, a remission of two days for each month; prisoners in gaol for the first time, undergoing sentences of over three months, and not exceeding six months, a remission of three days for each month. Prisoners serving sentences commuted from capital convictions are not entitled to a remission, but their cases may be specially considered. Remissions are not granted where the sentence does not exceed three months, but it is proposed to apply the principle to prisoners of this class.

Under section 409 of the Criminal Law Amendment Act a prisoner under sentence may be granted a written license to be at large within specified limits during the unexpired portion of his sentence. Sureties are required, unless under exceptional circumstances, for good behaviour and observance of the conditions of the license. The prisoner who is liberated is required to report himself periodically to the police, and is liable to have his license cancelled and to be committed to gaol to undergo the remainder of his sentence upon any breach of the conditions



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upon which he was released. This system was first adopted in September, 1891, and at the end of 1900 it had been put in force in 208 cases—those of 204 males and 4 females. Of the 208 licenses issued, there were on December 31, 1900, 64 still in force, 124 had expired, and in 18 cases the balance of the sentence had been remitted and the license cancelled, while in only 2 cases was the license-holder returned to gaol to complete his sentence.

When the neglected state in which many of the prisoners are received is considered, it may be said that the death-rate in gaols is light, and it shows, moreover, signs of decreasing. More especially in the country districts, the gaols are frequently called upon to receive persons in the last stages of disease, whose proper destination should rather have been a hospital or an asylum. This causes an undue inflation of the prison death-rate, and it may be said that in a large percentage of the total deaths during 1900 the cause should be looked for in diseases originating prior to reception in gaol. A comparison between the death-rate in gaols and that of the general population it is difficult to make, but it may be said generally that the death-rate of all persons received into gaol is at present not greater than that of the general population of like ages, while the death-rate of habitual criminals is largely below the average. In the following table the number of deaths, exclusive of those resulting from executions, is given for 1880 and subsequent periods, together with the death-rate per 1,000 of the average number of prisoners in confinement during the year. This average has been obtained for every year by taking the mean of the numbers in confinement at the end of that year and at the end of the preceding year :—

| Year. | Deaths. | | | Death-rate per 1,000 persons in confinement. |
|---|---|---|---|---|
| | Males. | Females. | Total. | |
| 1880 | 37 | ... | 37 | 18·85 |
| 1885 | 39 | 11 | 50 | 19·90 |
| 1890 | 24 | 2 | 26 | 10·84 |
| 1891 | 37 | 3 | 40 | 15·86 |
| 1892 | 36 | 4 | 40 | 15·27 |
| 1893 | 28 | 6 | 34 | 13·42 |
| 1894 | 22 | 2 | 24 | 9·49 |
| 1895 | 19 | 3 | 22 | 8·61 |
| 1896 | 28 | 2 | 30 | 12·29 |
| 1897 | 22 | ... | 22 | 9·47 |
| 1898 | 20 | 1 | 21 | 9·40 |
| 1899 | 31 | 2 | 33 | 15·71 |
| 1900 | 15 | 3 | 18 | 9·02 |

Since 1893 returns have been obtained of the height of all persons committed to gaol, and the following results, which relate to the 6,667 males incarcerated during 1900, are given merely as a curiosity of

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criminal statistics. No comparison with the general population can be made, as no data for such a comparison exist:—

| Height. | Age Groups. | | | | | | | | | | | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 9 to 15. | 16 to 20. | 21 and under 25. | 25 and under 30. | 30 and under 35. | 35 and under 40. | 40 and under 45. | 45 and under 50. | 50 and under 55. | 55 and under 60. | 60 and over. | |
| Under 4 ft. 6 in. .. | 18 | .. | .. | — | .. | 1 | .. | .. | .. | .. | .. | 19 |
| 4 ft. 6 in. ..... | 1 | .. | .. | — | .. | .. | .. | .. | .. | .. | .. | 1 |
| 4 ft. 7 in. ..... | 5 | 1 | .. | — | .. | .. | .. | .. | .. | .. | .. | 6 |
| 4 ft. 8 in. ..... | 2 | 1 | .. | — | .. | 1 | .. | .. | .. | .. | .. | 4 |
| 4 ft. 9 in. ..... | 8 | 1 | .. | — | .. | .. | .. | .. | .. | 1 | .. | 10 |
| 4 ft. 10 in. ..... | 9 | 1 | .. | .. | 1 | .. | .. | 4 | 1 | 1 | .. | 17 |
| 4 ft. 11 in. ..... | 8 | 6 | 3 | 1 | 4 | .. | 4 | 1 | .. | 3 | 2 | 32 |
| 5 ft. ..... | 6 | 23 | 6 | 13 | 10 | 9 | 8 | 4 | 3 | 4 | 5 | 91 |
| 5 ft. 1 in. ..... | 4 | 26 | 12 | 26 | 18 | 15 | 8 | 8 | 13 | 7 | 12 | 149 |
| 5 ft. 2 in. ..... | 4 | 42 | 22 | 47 | 30 | 28 | 36 | 22 | 15 | 10 | 26 | 282 |
| 5 ft. 3 in. ..... | .. | 54 | 51 | 66 | 55 | 60 | 47 | 38 | 35 | 20 | 47 | 473 |
| 5 ft. 4 in. ..... | 1 | 91 | 92 | 127 | 94 | 86 | 78 | 65 | 42 | 34 | 56 | 766 |
| 5 ft. 5 in. ..... | 4 | 99 | 90 | 162 | 121 | 124 | 97 | 79 | 50 | 28 | 67 | 921 |
| 5 ft. 6 in. ..... | .. | 88 | 114 | 221 | 132 | 126 | 108 | 81 | 59 | 38 | 65 | 1,032 |
| 5 ft. 7 in. ..... | 1 | 77 | 109 | 175 | 122 | 115 | 105 | 81 | 44 | 35 | 50 | 914 |
| 5 ft. 8 in. ..... | 1 | 52 | 84 | 200 | 121 | 104 | 89 | 69 | 37 | 31 | 38 | 826 |
| 5 ft. 9 in. ..... | .. | 38 | 44 | 114 | 76 | 76 | 81 | 48 | 31 | 22 | 23 | 553 |
| 5 ft. 10 in. ..... | .. | 21 | 34 | 64 | 49 | 36 | 39 | 19 | 13 | 8 | 19 | 302 |
| 5 ft. 11 in. ..... | .. | 9 | 10 | 44 | 26 | 28 | 17 | 13 | 7 | 3 | 5 | 162 |
| 6 ft. ..... | .. | 6 | 2 | 7 | 12 | 17 | 6 | 6 | 3 | 2 | .. | 61 |
| 6 ft. 1 in. ..... | .. | .. | 3 | 10 | 6 | 4 | 2 | .. | 4 | 2 | .. | 31 |
| 6 ft. 2 in. ..... | .. | 1 | 2 | 1 | 4 | 2 | 3 | .. | | .. | .. | 14 |
| 6 ft. 4 in. ..... | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 |
| Total ..... | 72 | 637 | 678 | 1,278 | 881 | 832 | 728 | 539 | 358 | 249 | 415 | 6,667 |

A similar return relating to the 1,046 females committed to gaol in the course of the year 1900 shows the following results:—

| Height. | Age Groups. | | | | | | | | | | | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 13 to 15. | 16 to 20. | 21 and under 25. | 25 and under 30. | 30 and under 35. | 35 and under 40. | 40 and under 45. | 45 and under 50. | 50 and under 55. | 55 and under 60. | 60 and over. | |
| Under 4 ft. 6 in. .. | 1 | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | .. | 3 |
| 4 ft. 6 in. ..... | 1 | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | 1 | 4 |
| 4 ft. 7 in. ..... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| 4 ft. 8 in. ..... | .. | .. | .. | 2 | 4 | 1 | 3 | 1 | 1 | 1 | 1 | 14 |
| 4 ft. 9 in. ..... | .. | 2 | 1 | 4 | 2 | 1 | 7 | .. | 3 | 4 | 2 | 26 |
| 4 ft. 10 in. ..... | .. | 6 | 2 | 12 | 8 | 5 | 4 | 7 | 5 | 3 | 4 | 56 |
| 4 ft. 11 in. ..... | .. | 12 | 5 | 8 | 7 | 13 | 15 | 2 | 3 | 2 | 4 | 71 |
| 5 ft. ..... | .. | 13 | 14 | 23 | 26 | 16 | 22 | 14 | 5 | 3 | 6 | 142 |
| 5 ft. 1 in. ..... | 1 | 18 | 17 | 31 | 32 | 36 | 24 | 15 | 4 | 6 | 3 | 187 |
| 5 ft. 2 in. ..... | .. | 25 | 12 | 33 | 32 | 37 | 12 | 9 | 6 | 6 | 7 | 179 |
| 5 ft. 3 in. ..... | .. | 16 | 17 | 21 | 21 | 17 | 7 | 9 | 3 | 9 | 7 | 127 |
| 5 ft. 4 in. ..... | .. | 11 | 10 | 22 | 17 | 16 | 17 | 6 | 5 | .. | .. | 104 |
| 5 ft. 5 in. ..... | .. | 6 | 6 | 16 | 15 | 6 | 7 | 5 | 2 | 2 | 1 | 66 |
| 5 ft. 6 in. ..... | .. | 3 | 2 | 7 | 5 | 13 | 3 | | 1 | 2 | 1 | 43 |
| 5 ft. 7 in. ..... | .. | .. | 1 | .. | 3 | 1 | .. | .. | 1 | .. | .. | 6 |
| 5 ft. 8 in. ..... | .. | .. | 1 | 1 | 2 | 2 | 4 | .. | .. | .. | .. | 10 |
| 5 ft. 9 in. ..... | .. | 1 | .. | .. | 2 | 1 | 1 | .. | .. | .. | .. | 5 |
| 5 ft. 10 in. ..... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| 5 ft. 11 in. ..... | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 1 |
| Total ..... | 3 | 113 | 88 | 180 | 177 | 166 | 128 | 75 | 39 | 38 | 39 | 1,046 |

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## Capital Punishment.

In the early days of settlement the spectacle of judicial executions must have been extremely common. Offences which are now summarily dealt with by magistrates, and deemed sufficiently punished by imprisonment for two or three months, were in some cases punishable by death. This barbarous system lasted until about the year 1832, when the offences of stealing from a dwelling money or goods to the value of £5, and of killing or stealing horses, cattle, or sheep, were removed from the category of capital crimes. Five years later the punishment of death was abolished in the following cases:—Riotous destruction of buildings and machinery, riotous assembling, rescue of a person convicted of murder, seducing a person in the Royal Navy from duty, inciting to mutiny, administering unlawful oaths purporting to bind the person taking the same to commit any treason or murder, breaking prison, escaping from lawful custody more than once, smuggling while armed, shooting at any vessel, or maliciously shooting or maiming any officer of the Navy or Revenue Service. Executions have been less numerous of late years than formerly, the dread penalty being carried out in only a small proportion of cases wherein the death sentence has been pronounced. The number of executions since 1825 is given herewith. In three years only have there been no executions. Four females have been hanged during the period in question:—

| Year. | Convictions. | Executions. | Year. | Convictions. | Executions. | Year. | Convictions. | Executions. |
|---|---|---|---|---|---|---|---|---|
| 1825 | 54 | 9 | 1851 | 8 | 2 | 1877 | 9 | 2 |
| 1826 | 72 | 21 | 1852 | 10 | 5 | 1878 | 12 | 1 |
| 1827 | 93 | 29 | 1853 | 4 | 2 | 1879 | 21 | 1 |
| 1828 | 106 | 28 | 1854 | 11 | 6 | 1880 | 21 | 4 |
| 1829 | 112 | 52 | 1855 | 12 | 5* | 1881 | 6 | 2 |
| 1830 | 136 | 50 | 1856 | 7 | ..... | 1882 | 14 | 3 |
| 1831 | 143 | 32 | 1857 | 9 | 4 | 1883 | 9 | 1 |
| 1832 | 156 | 12 | 1858 | 9 | 1 | 1884 | 8 | 2 |
| 1833 | 135 | 31 | 1859 | 10 | 7 | 1885 | 11 | 3 |
| 1834 | 148 | 44 | 1860 | 11 | 5* | 1886 | 22 | 2 |
| 1835 | 142 | 40 | 1861 | 32 | 2 | 1887 | 4 | 4 |
| 1836 | 79 | 26 | 1862 | 18 | 6 | 1888 | 17 | 2 |
| 1837 | 90 | 12 | 1863 | 16 | 6 | 1889 | 4 | 3* |
| 1838 | 130 | 19 | 1864 | 5 | 2 | 1890 | 1 | 1 |
| 1839 | 53 | 22 | 1865 | 10 | 3 | 1891 | 6 | 3 |
| 1840 | 13 | 8 | 1866 | 20 | 6 | 1892 | 4 | 1 |
| 1841 | 27 | 18 | 1867 | 19 | 4 | 1893 | 8 | 5 |
| 1842 | 47 | 13 | 1868 | 13 | 5 | 1894 | 8 | 5 |
| 1843 | 22 | 8 | 1869 | 6 | ..... | 1895 | 7 | 1 |
| 1844 | 22 | 8* | 1870 | 3 | ..... | 1896 | 4 | 1 |
| 1845 | 15 | 3 | 1871 | 11 | 3 | 1897 | 7 | 3 |
| 1846 | 11 | 1 | 1872 | 19 | 3 | 1898 | 5 | 1 |
| 1847 | 10 | 6 | 1873 | 10 | 4 | 1899 | 5 | 1 |
| 1848 | 6 | 5 | 1874 | 14 | 3 | 1900 | 6 | 1 |
| 1849 | 6 | 4 | 1875 | 8 | 2 | | | |
| 1850 | 5 | 4 | 1876 | 15 | 4 | | | |

* One female.

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During the seventy-six years embraced in the table just given, 2,362 persons were sentenced to death, and of these, 1,736 were condemned during the first eighteen years. For the whole period the executions numbered 648, of which 466 were carried out during the first eighteen years.

A study of the statistics of judicial executions in New South Wales prior to the year 1842 will make it abundantly plain that the barbarous system of taking life for insufficient cause, so far from striking terror into the hearts of would-be criminals, had the effect of lowering the moral tone of the whole community, and, therefore, of making some of its members more prone to commit the very offences which the punishment was intended to prevent. The death penalty is now imposed for murder, attempt at murder, rape, and setting fire to a dwelling knowing that there is a person therein; it is, however, generally carried out for murder only. The following statement shows the number of convictions and executions for the offences named for a period of thirty years:—

| Year. | Murder and Attempt at Murder. | | Rape. | |
|---|---|---|---|---|
| | Convictions. | Executions. | Convictions. | Executions. |
| 1871 | 9 | 3 | 2 | ..... |
| 1872 | 14 | 3 | 5 | ..... |
| 1873 | 9 | 4 | 1 | ..... |
| 1874 | 7 | 2 | 7 | 1 |
| 1875 | 7 | 1 | 1 | 1 |
| 1876 | 12 | 4 | 3 | ..... |
| 1877 | 4 | 2 | 5 | ..... |
| 1878 | 8 | 1 | 4 | ..... |
| 1879 | 16 | ..... | 5 | 1 |
| 1880 | 15 | 4 | 6 | ..... |
| 1881 | 3 | 1 | 3 | 1 |
| 1882 | 10 | 3 | 4 | ..... |
| 1883 | 8 | 1 | 1 | ..... |
| 1884 | 7 | 2 | 1 | ..... |
| 1885 | 9 | 3 | 2 | ..... |
| 1886 | 10 | 2 | 12 | ..... |
| 1887 | 3 | ..... | 1 | 4* |
| 1888 | 15 | 2 | 2 | ..... |
| 1889 | 3 | 3 | 1 | ..... |
| 1890 | 1 | 1 | ..... | ..... |
| 1891 | 5 | 3 | 1 | ..... |
| 1892 | 4 | 1 | ..... | ..... |
| 1893 | 6 | 5 | 2 | ..... |
| 1894 | 7 | 5 | 1 | ..... |
| 1895 | 5 | 1 | 2 | ..... |
| 1896 | 4 | 1 | ..... | ..... |
| 1897 | 3 | 2 | 4 | 1 |
| 1898 | 4 | ..... | 1 | 1 |
| 1899 | 6 | ..... | 1 | 1 |
| 1900 | 6 | 1 | 1 | ..... |

* Mount Rennie case; convicted in 1886.

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In 1887, as the table shows, the death penalty was carried out in the case of four prisoners charged with rape. Since that year there was no further execution till the single cases in each of the years 1897, 1898, and 1899. It would be rash to argue that the executions in 1887 have exercised a salutary effect upon persons disposed to commit this crime, for there has been no diminution in the number of persons committed for trial. With more reason it might be assumed that juries are loth to convict for rape, knowing that death is the penalty assigned by law as its punishment.

### Cost of Police and Prison Services.

The following table shows the amount expended in maintaining the police and prison services during the last five years, and also the amount of fines paid into the Consolidated Revenue, and the net return from prison labour:—

| Expenditure and Revenue. | 1896. | 1897. | 1898. | 1899. | 1900. |
|---|---|---|---|---|---|
| Expenditure— | £ | £ | £ | £ | £ |
| Police | 330,516* | 333,055† | 332,824‡ | 368,234§ | 384.442¶ |
| Penal establishments | 141,028 | 121,673 | 130,384 | 137,191 | 136,733 |
| Total | 471,544 | 454,728 | 463,208 | 505,425 | 521,175 |
| Revenue— | | | | | |
| Fines | 11,027 | 11,988 | 11,872 | 11,865 | 12,549 |
| Net return from prison labour | 20,537 | 19,101 | 20,547 | 17,846 | 16,352 |
| Total | 31,564 | 31,089 | 32,419 | 29,711 | 28,901 |
| Net Expenditure | 439,980 | 423,639 | 430,789 | 475,714 | 492,274 |
| | s. d. | s. d. | s. d. | s. d. | s. d. |
| Per Inhabitant | 6 11 | 6 7 | 6 7 | 7 2 | 7 3 |

* Financial year, 1896-7. † Financial year, 1897-8. ‡ Financial year, 1898-9.
§ Financial year, 1899-0. ¶ Financial year, 1900-1.

It is to be understood that the value of prison labour set down in the above table represents labour of a productive character only.

### Extradition.

There are two Imperial statutes in force in New South Wales for the surrender of fugitive criminals, viz., the Extradition Act of 1870, and the Fugitive Offenders Act of 1881. The former provides for the surrender to foreign States of persons accused or convicted of certain crimes within the jurisdiction of such States, and for the trial of criminals surrendered to British dominions. Treaties for the extradition of fugitive criminals exist between Her Majesty's Government and the Governments of France, Germany, Austria-Hungary, Brazil, Spain, Italy, Belgium, the Netherlands, Denmark, Sweden and Norway,

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Switzerland, Haiti, the United States of America, the Argentine Republic, Columbia, Ecuador, Guatemala, Mexico, Orange Free State, Portugal, Roumania, Russia, Salvador, Tonga, and Uruguay. In proceedings taken in New South Wales under this Act the fugitive is brought before the Governor, who hears evidence on oath, and, if satisfied that the person is liable to be extradited, makes out a warrant to that effect. At the hearing of the case, the Consul for the country to which the person charged belongs, the Crown Solicitor, and the Inspector-General of Police are present. If a warrant is made out, the prisoner is sent to Darlinghurst Gaol for fifteen days prior to extradition, during which interval he may apply to the Supreme Court for a writ of *habeas corpus*. During the ten years ended 1900 there were altogether 21 persons extradited, all of whom were escapees from the French penal settlement of New Caledonia.

Under the Fugitive Offenders Act, 1881, provision is made for the surrender from the United Kingdom to a British possession or *vice versa*, or from one British possession to another, of fugitives charged with the perpetration of crimes which are, in the part of His Majesty's dominions where they are committed, punishable by imprisonment with hard labour for twelve months or more, or by some greater penalty. Persons apprehended under the Act are dealt with at a Magistrate's Court, and their cases are included in the figures relating to the business transacted at Magistrates' Courts, and not in the returns relating to the Extradition Court.

During 1900, 17 fugitive offenders—all of whom were males—were arrested in other parts of His Majesty's dominions, or in foreign countries, and returned to New South Wales. Of these 6 were summarily convicted before magistrates, and 9 were committed to higher courts, the other 2 cases being withdrawn or discharged.

There were also 32 fugitive offenders from other portions of His Majesty's dominions arrested in New South Wales, and brought up at magistrates' courts during the year. Of these, 13 were remanded to Victoria, 9 to Queensland, 1 to Tasmania, 2 to New Zealand, and 7 to South Australia.

## Decrease in Crime.

There are two ways available for testing the increase or decrease in crime: the first, which is by comparing the number of arrests with the whole population of the country, may be said to be a test of the willingness or otherwise of the people to obey the laws; the second is a comparison of the persons committed for trial by jury with the whole population, and as all serious offenders are so tried, this may be looked upon as a test of the prevalence of serious crime. In making comparisons of this kind it must be borne in mind—first, in regard to apprehensions, that as new laws are continually being made, and the large proportion of such laws attach the penalty of fine or imprisonment to their breach, the number of offences for which a person is liable to

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be apprehended has constantly been increasing; and second, that the general tendency of late years has been for magistrates to deal summarily with a large proportion of the cases submitted to them. Hence it is quite possible that crime might be neither increasing nor diminishing, and yet the returns show an increase of apprehensions and a decrease of committals. Taking all things into consideration, the tables given hereunder may be accepted as showing that crime has largely decreased. The first table shows, in quinquennial periods, the mean population, the average number of apprehensions, and the proportion of these to the general population for the last thirty-one years:—

| Period. | Mean Population. | Apprehensions. | |
|---|---|---|---|
| | | Average Annual. | Per 100,000 of Population. |
| 1870–74 | 526,733 | 19,422 | 3,687 |
| 1875–79 | 633,255 | 28,837 | 4,554 |
| 1880–84 | 802,712 | 41,262 | 5,140 |
| 1885–89 | 1,000,744 | 39,406 | 3,938 |
| 1890–94 | 1,174,963 | 37,854 | 3,222 |
| 1895–1900* | 1,302,025 | 36,365 | 2,793 |

* Six years.

It cannot be claimed that 2,793 apprehensions per 100,000 of population is a low average; on the contrary, it is much above that of most of the other states of the group, but it is a marked improvement on the rates of previous years. The comparison made above has reference to the whole population, but as few persons under 15 years of age commit crimes, children under that age have been excluded from the following statement, which compares the periods 1879–82, 1889–92, and 1899–1900, these periods being selected on account of the number in each age-group being accurately determinable from the results of the last three Census enumerations. The following figures relate to males:—

| Age-group. | 1879–82. | | 1889–92. | | 1899–1900. | |
|---|---|---|---|---|---|---|
| | Average Annual Arrests. | Per 100,000 of Population. | Average Annual Arrests. | Per 100,000 of Population. | Average Annual Arrests. | Per 100,000 of Population. |
| 15 years and under 20..... | 1,734 | 4,543 | 1,882 | 3,468 | 1,932 | 2,732 |
| 20 ,, ,, 30..... | 8,884 | 11,829 | 9,939 | 8,433 | 8,156 | 6,840 |
| 30 ,, ,, 40..... | 8,141 | 14,358 | 8,848 | 9,565 | 8,724 | 8,278 |
| 40 ,, ,, 50..... | 5,945 | 13,614 | 5,803 | 9,920 | 6,718 | 8,546 |
| 50 ,, upwards..... | 5,061 | 11,347 | 5,045 | 7,315 | 5,490 | 6,140 |

In every age-group there has been a decided fall in the proportion of arrests, but the improvement is most marked in the higher age-groups, which every year are becoming more largely composed of Australian-born. The decline in the proportion of females arrested is even more

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noticeable than amongst the males. The following figures relating to females are on the same basis as those in the preceding table :—

| Age-group. | 1879–82. | | 1889–92. | | 1899–1900. | |
|---|---|---|---|---|---|---|
| | Average Annual Arrests. | Per 100,000 of Population. | Average Annual Arrests. | Per 100,000 of Population. | Average Annual Arrests. | Per 100,000 of Population. |
| 15 years and under 20..... | 484 | 1,288 | 463 | 850 | 298 | 428 |
| 20 ,, ,, 30 ..... | 1,813 | 3,023 | 1,814 | 1,807 | 1,856 | 1,562 |
| 30 ,, ,, 40..... | 2,018 | 5,002 | 1,600 | 2,500 | 1,895 | 2,183 |
| 40 ,, ,, 50..... | 1,471 | 5,410 | 1,035 | 2,531 | 1,044 | 1,849 |
| 50 ,, upwards..... | 1,118 | 4,122 | 740 | 1,637 | 671 | 1,027 |

Turning to the committals to the higher Courts and the convictions there, an even more decided decline is noticeable, and as the committals represent the more serious types of offences, the decline must be looked upon as especially satisfactory :—

| Period. | Committals. | | Convictions. | |
|---|---|---|---|---|
| | Annual Average. | Per 100,000 of Population. | Annual Average. | Per 100,000 of Population. |
| 1870–74 | 1,134 | 215·3 | 644 | 122·3 |
| 1875–79 | 1,506 | 237·8 | 881 | 139·1 |
| 1880–84 | 1,693 | 210·9 | 1,044 | 130·1 |
| 1885–89 | 1,539 | 153·9 | 885 | 88·4 |
| 1890–94 | 1,479 | 125·9 | 916 | 78·0 |
| 1895–1900 | 1,356 | 104·1 | 817 | 62·7 |

It will be seen that the fall has been nearly continuous over the whole period, convictions for serious offences being less than they were twenty-five years ago, notwithstanding the fact that population has more than doubled during the interval.

It may be taken, then, as clearly proved that there has been a great decrease in crime during the last twenty-five years. The reform, if it may be so termed, has come about owing to a general improvement in the community itself, and not to the reform of individuals by reason of the deterrent effect of punishments inflicted. It is in vain to look for the reformation of persons who have lapsed into crime; the prison statistics nowhere show that punishment as now administered has in general any such effect. Perhaps the most serious defect in the treatment of offenders arises from the fact that any reformative effect from detention in gaol usually ceases with the prisoner's discharge. Until some efficient organization is formed to assist released prisoners to obtain honest employment there is no recourse for the great majority of these unfortunates but to seek their criminal friends and again qualify for speedy re-admission to gaol. It must be admitted, of course, that there is a certain class of criminal utterly devoid of any desire to amend, and it would doubtless be better for society if such as these were never allowed outside the prison walls. Reference has already been made to

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persons with previous convictions, but, as explained, the convictions referred to are convictions within the year. If all convictions be included, it would seem that about 72 per cent. were persons who entered prison during 1900 for the first time or whose history was unknown. Of these, a large number, probably not far short of 40 per cent., find their way again into prison, not deterred by their former experience, or driven to crime by the loss of caste which a criminal conviction inevitably involves. Of the persons convicted for the second time, 52 per cent. will find their way to gaol for the third time, and of the thrice convicted about 60 per cent. will be again received into gaol.

### Crime in Australasia.

The convictions in the higher courts of New South Wales, taken over a series of years, greatly exceed in number those of any other state, and in proportion to the population they are only exceeded by Western Australia. So marked is this fact that much speculation has been indulged in as to the probable cause of the anomaly. It is admitted that the people of all the states are practically derived from the same stock, while their occupations and habits of life are fairly alike, and a theory has been hazarded that the high rate of crime in New South Wales is due to a blood taint derived from the original bond-population of this state. Such a theory is manifestly absurd, as Tasmania, the province which received proportionately the largest number of convicts, and the population of which has been least diluted by immigration, has for many years had the most favourable record of convictions. There is no evidence that such a population now exists anywhere in Australasia; it certainly does not exist in New South Wales. But though the gratuitous theory above alluded to may be easily disposed of, the fact remains that the second largest proportion of convictions in the higher courts occurs in this state. Western Australia shows a much higher proportion; but its sparse population and peculiar situation would warrant the anticipation of a large amount of crime of a kind not found in the older settled provinces. The rate in Queensland for 1900 was also slightly higher. The convictions after trial in the Superior Courts of Australasia, for the year 1900, were as follow:—

| State. | Convictions in Superior Courts. | |
|---|---|---|
| | Number. | Per 100,000 of Population. |
| New South Wales | 755 | 56 |
| Victoria | 452 | 38 |
| Queensland | 278 | 57 |
| South Australia | 82 | 22 |
| Western Australia | 156 | 89 |
| Tasmania | 25 | 14 |
| Commonwealth | 1,748 | 47 |
| New Zealand | 408 | 53 |
| Australasia | 2,156 | 48 |

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In the foregoing table it will be observed that Queensland and New South Wales have the largest proportion of convictions of any of the states except Western Australia, the peculiar circumstances of which have already been alluded to. It has already been pointed out, in explaining the changes in the compilation of the criminal statistics, that the high rate of offenders in New South Wales is due to a number of causes. First among these, as accounting for the excessive number of convictions in the Superior Courts, may be mentioned the differences in the jurisdiction of the Courts of the various states. For instance, South Australia and Tasmania have no intermediate Courts like the Quarter Sessions of New South Wales and the District Courts with criminal jurisdiction of some of the other states, and many persons who would be committed to higher Courts in New South Wales are convicted in the Magisterial Courts of South Australia and Tasmania. Further, in Victoria magistrates have a much wider jurisdiction than in New South Wales, and many offenders who are summarily convicted in the former state would have to be committed to a higher tribunal in the latter province. It will be seen, therefore, that this question of the jurisdiction of the magistracy of the states is one which must affect the criminal returns of the Superior Courts.

Another point which must be considered is the large number of persons who drift from one part of the country to another in search of work. For many years there has been in New South Wales a large population whose abode in any district is determined by the existence of a demand for unskilled labour, and it is from the ranks of this floating population that a large proportion of the persons convicted of crime is derived. All the states have, to a greater or less extent, this class of population; but in New South Wales it is numerically the largest. As these people settle down to regular employment in a fixed abode and acquire interests apart from the excitements of an unsettled life, crime will be found to diminish. The neighbouring state of Victoria, where the decrease of convictions has steadily kept pace with the settlement of its population, may be cited as an example of this truth, the proportion of convictions in 1900 being 38 per 100,000, as compared with 101 in 1866.

The laws relating to crime are somewhat similar throughout Australasia, although there are one or two important points of difference, such as the provision of the Crimes Act of 1890 under which Justices in Victoria may, under certain circumstances, discharge a person accused of simple larceny without proceeding to a conviction, which might be found on investigation to considerably affect the returns. It is possible, too, that the administration of these laws may be more rigorous in New South Wales than in any of the other provinces. This has already been shown to be the case in regard to drunkenness, and offers an additional explanation of the large number of convictions obtained in New South Wales. It should also be remembered that in this state there is no Act to prevent the influx of criminals, such as exists and is stringently enforced in some of the other provinces.

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## The Supreme Court—Civil Jurisdiction.

The chief legal tribunal of the state is the Supreme Court, which is at present composed of seven Judges, viz., a Chief Justice and six Puisne Judges. Civil actions are usually tried by a jury of four persons, but either party to the suit, on cause shown, may apply to a Judge in Chambers to have the cause tried by a jury of twelve. Twice the number of jurors required to sit on the case are chosen by lot, from a panel summoned by the Sheriff, and from that number each of the parties strikes out a fourth, the remainder thus selected by both parties forming the jury who are to try the case. The jury are constituted the judges of the facts of the case only, being bound to accept the dicta of the Judge on all points of law. From the Court thus constituted an appeal lies to what is called the "Full Court," sitting *in Banco*, which is generally composed of at least three of the Judges. The Chief Justice, or in his absence the senior Puisne Judge, presides over the Full Court, which gives its decision by majority. The circumstances under which new trials are granted are:—Where the Judge has erroneously admitted or rejected material evidence; where he has wrongly directed the jury on a point of law; where the verdict of the jury is clearly against evidence; or where, from some other cause, there has evidently been a miscarriage of justice.

Provision is made for appeals to the Privy Council, but any suitor wishing to carry his cause before the supreme tribunal of the Empire must first obtain leave so to do from the Supreme Court. The amount in dispute must be at least £500, or affect the construction of a New South Wales statute. In other cases application for leave to appeal must be made to the Privy Council itself. The British Government has appointed Chief Justice Way, of South Australia, to a seat on the Judicial Committee of the Privy Council, so that he may bring to the deliberations of the Committee his knowledge of the laws, especially the land laws, of the states. So far as New South Wales is concerned, there have been, during the ten years ended 1900, 64 appeals to the Privy Council in common law, 32 in Equity, 2 in Bankruptcy, and 1 from the judgment of the Vice-Admiralty Court; of which, 3 appeals in common law, and 2 in Equity, were made during 1900. One of these appeals was in a case directly arising out of the Crown Lands Acts; but in a number of other cases questions of interpretation of the land laws of the state have arisen when the appeals were being considered by the Privy Council.

The Chief Justice has also an extensive jurisdiction as Commissary of the Vice-Admiralty Court, in which all cases arising out of collisions, etc., in Australian waters, are determined. One of the Puisne Judges acts as his deputy, but the Supreme Court, as such, has no jurisdiction in Admiralty cases.

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One of the Puisne Judges also acts as Judge of the Equity Court, from whose decrees an appeal lies to the Full Court, and thence to the Privy Council.

Affairs in Bankruptcy are also dealt with by a Puisne Judge, assisted by the Registrar. An appeal can be made to the Full Court against the Judge's decision.

Another Puisne Judge presides over the Divorce Court, in which cases are usually tried without a jury, an appeal lying to the Supreme Court.

The Equity Judge formerly represented the ecclesiastical jurisdiction of the Supreme Court, and heard and decided all applications for the probate of wills and for letters of administration, and also determined suits as to the validity, etc., of wills. By the Probate Act of 1890 this jurisdiction was vested in the Supreme Court in its Probate jurisdiction, and the business transferred to such Judge as might be appointed Probate Judge. Motions for rehearing cases, adjudicated in this Court, are sometimes made before the Supreme Court or Privy Council.

A Judge can only be removed from office upon the address of both Houses of Legislature. Upon permanent disability or infirmity, or after fifteen years' service, a Judge is entitled to retire from the Bench with a pension, the amount of which, as well as of his salary, is secured and regulated by various Acts.

A person eligible for admission as a solicitor, provided he has not been admitted in Great Britain or Ireland, or in any of the other Australasian Colonies, must have been articled to some solicitor practising in New South Wales, and have served for a term of five years, or in the case of a person who has taken a degree in Arts before entering into articles, a term of three years, and must have passed the examinations of a Board, consisting of two barristers and four solicitors, appointed annually for that purpose by the Supreme Court. The admission of a solicitor can only take place on the last day of any of the four terms into which the judicial year is divided. A solicitor who ceases to practise for twelve months continuously may be struck off the roll, in which case it is necessary for him to give a term's notice before he can be readmitted. A barrister who has been in practice as such for five years, having caused himself to be disbarred, can, under Act 55 Vic. No. 31, be admitted as a solicitor without examination. Under the provisions of the same Act a solicitor is competent to appear, and has the right of audience, in all courts of New South Wales. The Court can suspend or remove from the roll of solicitors any person who, in its opinion, has been guilty of misconduct or malpractice.

The Board for approval of qualified persons to be admitted as barristers of the Supreme Court of New South Wales, is formed under Act 11 Vic. No. 57, and consists of the Judges of the Supreme Court, the Attorney-General for the time being, and two elected members of the Bar. Applicants must have been students-at-law for three, or in the case of graduates, for two years, and have passed all examinations prescribed by the Board. A solicitor who has been in practice for not less than five years, and who

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has removed his name from the roll of solicitors, is entitled, under Act 55 Vic. No. 31, to be admitted as a barrister without examination. Admission is made in open Court any day in term by any two Judges sitting together.

During the year 1900 there were 154 persons practising as barristers of the Supreme Court, while the solicitors numbered 898, of whom 516 were in the metropolitan district, and 382 in various country towns.

## Common Law Jurisdiction of Supreme Court.

The following table gives the number of writs issued and the amount for which judgment was signed in the Supreme and Circuit Courts (Common Law jurisdiction) during the last ten years. The number of writs issued includes cases which were subsequently settled by the parties; but the total amount involved in these claims is not, of course, included in the sum for which judgment was signed. The amounts for judgments signed include taxed costs in all cases where the judgments have been completed at the end of the year, and relate to undefended and tried cases only. During 1900 the total bills of costs amounted to £30,152, but from this a sum of £7,888 was taxed off, leaving the net costs at £22,264. The court costs of taxation amounted to £456:—

| Year. | Writs issued. | Judgments signed. |
|---|---|---|
| | No. | £ |
| 1891 | 6,144 | 537,231 |
| 1892 | 6,219 | 739,419 |
| 1893 | 6,205 | 724,211 |
| 1894 | 4,866 | 489,054 |
| 1895 | 4,118 | 478,225 |
| 1896 | 3,775 | 388,382 |
| 1897 | 3,146 | 436,506 |
| 1898 | 2,901 | 302,569 |
| 1899 | 3,014 | 309,085 |
| 1900 | 2,983 | 296,841 |

The number of causes set down and tried is shown below:—

| Year. | Causes set down. | Not proceeded with. | Referred to Arbitration. | Causes Tried. | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Verdict for Plaintiff. | Verdict for Defendant | Disagreement of Jury. | Non-suited. | Total. |
| | No. | No. | No. | No. | No. | No. | No. | No. |
| 1891 | 528 | 252 | ..... | 204 | 71 | 1 | ..... | 276 |
| 1892 | 450 | 184 | ..... | 212 | 53 | 1 | ..... | 266 |
| 1893 | 456 | 190 | ..... | 197 | 69 | ..... | ..... | 266 |
| 1894 | 492 | 196 | ..... | 231 | 64 | 1 | ..... | 296 |
| 1895 | 426 | 168 | 13 | 196 | 35 | 1 | 13 | 245 |
| 1896 | 399 | 179 | 4 | 154 | 45 | 2 | 15 | 216 |
| 1897 | 370 | 147 | ..... | 151 | 50 | 1 | 21 | 223 |
| 1898 | 296 | 110 | 4 | 125 | 34 | 5 | 18 | 182 |
| 1899 | 302 | 83 | 3 | 154 | 32 | 5 | 25 | 216 |
| 1900 | 252 | 89 | 1 | 117 | 29 | 3 | 13 | 162 |

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## Equity Jurisdiction.

The practice and procedure of the Supreme Court in its equity jurisdiction are regulated by the Equity Act, 1880, and subsequent amending Acts. The transactions of the Equity Court during the last ten years were as follow :—

| Year. | Statements of Claims. | Statements of Defence. | Petitions. | Summonses. | Motions. | Decrees and Orders. |
|---|---|---|---|---|---|---|
| | No. | No. | No. | No. | No. | No. |
| 1891 | 212 | 135 | 137 | ..... | ..... | 712 |
| 1892 | 246 | 103 | 143 | ..... | ..... | 829 |
| 1893 | 240 | 115 | 139 | ..... | ..... | 835 |
| 1894 | 221 | 144 | 112 | 148 | 253 | 899 |
| 1895 | 222 | 126 | 128 | 131 | 201 | 897 |
| 1896 | 254 | 166 | 136 | 120 | 258 | 902 |
| 1897 | 222 | 143 | 108 | 110 | 234 | 906 |
| 1898 | 204 | 145 | 100 | 132 | 145 | 803 |
| 1899 | 268 | 154 | 59 | 116 | 243 | 822 |
| 1900 | 213 | 131 | 69 | 197 | 206 | 841 |

## Probate Jurisdiction.

The number of probates and letters of administration granted by the Supreme Court in its testamentary jurisdiction is shown in the following table for the last ten years :—

| Year. | Probates and Administrations—Wills annexed. | | Letters of Administration. | | Total. | |
|---|---|---|---|---|---|---|
| | Number. | Amount sworn to. | Number. | Amount sworn to. | No. of Estates. | Amount sworn to. |
| | | £ | | £ | | £ |
| 1891 | 1,192 | 4,734,228 | 767 | 722,568 | 1,959 | 5,456,796 |
| 1892 | 1,287 | 4,619,164 | 842 | 1,150,163 | 2,129 | 5,769,327 |
| 1893 | 1,183 | 3,508,264 | 782 | 635,537 | 1,965 | 4,143,801 |
| 1894 | 1,372 | 4,370,217 | 791 | 928,567 | 2,163 | 5,298,784 |
| 1895 | 1,321 | 4,185,497 | 833 | 672,729 | 2,154 | 4,858,226 |
| 1896 | 1,548 | 5,939,540 | 940 | 755,376 | 2,488 | 6,694,916 |
| 1897 | 1,335 | 5,509,935 | 875 | 415,107 | 2,210 | 5,925,042 |
| 1898 | 1,391 | 5,132,179 | 840 | 793,187 | 2,231 | 5,925,366 |
| 1899 | 1,560 | 3,855,995 | 945 | 1,207,557 | 2,505 | 5,063,552 |
| 1900 | 1,505 | 3,916,020 | 947 | 815,012 | 2,452 | 4,731,032 |

The figures here shown and those dealt with in the chapter on Private Finance as given by the Stamp Duties Department do not agree. The Court gives the gross values of estates, inclusive of such estates as, after investigation, are found not to be subject to duty, while the Stamp Duties Department returns the net value of the estates, and excludes those not subject to duty. The returns shown above are also swollen to some extent by probates taken out a second time.

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### Intestate Estates.

An officer is appointed under Act 54 Vic. No. 25 as Curator of Intestate Estates. He is empowered to apply for an order to collect the estate of any person who has died intestate, and left real or personal property, and no widow or next of kin resident within the jurisdiction of the Court; or of a person who has died intestate and left no executor, or no executor capable of acting in execution of his will and willing to do so; and in a few other instances. After meeting all proved and allowed claims, the Curator pays the balance of the amount realised into the Colonial Treasurer's Curator of Intestate Estates Account. Moneys not claimed within six years are paid into the Consolidated Revenue Fund, and used for the public service of the state. A rightful claimant may afterwards, however, obtain payment thereof, but without interest from the date of payment into the Treasury. Moneys belonging to minors are paid under order of the Court, and invested in the Savings Bank of New South Wales on behalf of the children until they reach the age of 21.

The number of estates opened during 1900 was 463, from which the Curator received £23,204, and paid away £10,159; while in connection with estates opened during previous years £11,587 was received, and £31,391 paid away. Commission and fees to the amount of £2,108 were paid into the Consolidated Revenue during the year. The revenue also benefited to the extent of £6,380 of unclaimed moneys, while claims amounting to £962 were received for moneys which had been paid into the Consolidated Revenue.

### Bankruptcy Jurisdiction.

The Bankruptcy law is administered by a Judge in Bankruptcy, under 51 Vic. No. 19 and amending Acts. Certain of the powers vested in the Judge are, however, delegated to a Registrar in Bankruptcy, and in the country districts many Police Magistrates and Registrars of District Courts are appointed as District Registrars in Bankruptcy, and have the same powers and jurisdiction as the Registrar in respect to the examination of bankrupts, the issue of summonses, etc. Appeals from decisions of the Registrar or a District Registrar are made to the Judge in Bankruptcy, who also deals with questions relating to priority of claims. When any person becomes embarrassed, or is unable to pay his debts, the law allows him to sequestrate his estate for the benefit of his creditors, or the latter may, under certain specified conditions, apply for a compulsory sequestration. An officer of the Court, termed an official assignee, is deputed by the Judge to manage the sequestrated estate. He receives 2½ per cent. commission on the amount realised and 2½ per cent. on the amount of dividends declared. In some cases the Judge may also award him special remuneration. Creditors have the power to accept, and the Judge to approve, proposals for a composition, or for an arrangement, provided that the scheme has

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been approved by a majority representing three-fourths of the value of all proved claims. If such a proposal has been accepted, one or two trustees may be appointed in place of, or in addition to, the official assignee. After the acceptance and approval of a composition or a scheme of arrangement, a bankrupt may have his estate released from sequestration. He is also entitled to a release when all the creditors have been paid in full, or when they have given him a legal quittance of the debts due to them. In other cases a bankrupt may give notice by advertisement three months from the date of sequestration of his intention to apply for a certificate of discharge. The application is heard within thirty days of the date of the first publication of the advertisement. The Judge receives a report from the official assignee, and may either grant or refuse an absolute order of discharge, or suspend the operation of the order for a certain time, or grant an order subject to conditions respecting the future earnings or income of the bankrupt.

Statistics of the transactions of the Bankruptcy Court will be found in the chapter of this work dealing with Private Finance. The matter of most interest from a legal point of view is the expenditure incurred in realising estates. On an average, costs seem to absorb 40·35 per cent. of the unsecured assets.

### Divorce and Matrimonial Causes Jurisdiction.

Prior to the passing of the Matrimonial Causes Act of 1873 (36 Vic. No. 9) the Supreme Court of New South Wales had no jurisdiction in divorce. Under that Act the chief grounds for divorce were adultery since marriage on the part of the wife, and adultery and cruelty on the part of the husband. The present Act was assented to on the 9th May, 1892, but did not come into force, owing to an informality, till the 6th August. During 1893 an amending Act (56 Vic. No. 36) was passed. Under these Acts petitions for divorce can be granted for the following causes, in addition to those already mentioned:—*Husband v. Wife.*—Desertion for not less than three years; habitual drunkenness for a similar period; being imprisoned under sentence for three years or upwards; attempt to murder or inflict grievous bodily harm, or repeated assault on the husband within a year preceding the date of the filing of the petition. *Wife v. Husband.*—Adultery, provided that at the time of the institution of the suit the husband is domiciled in New South Wales; desertion for not less than three years; habitual drunkenness for a similar period; being imprisoned for three years or upwards, or having within five years undergone various sentences amounting in all to not less than three years; attempt to murder or assault with intent to inflict grievous bodily harm, or repeated assault within one year previously. To entitle either party to seek relief on any of these grounds he or she must have been domiciled in the state for three years or upwards at the time of instituting the suit, and must not have resorted to the state for the purpose of having the marriage dissolved.



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In addition to the principal causes for which a divorce may be obtained, judicial separation may be granted for desertion extending over two years. Petitions of nullity of marriage may be granted in cases in which the ceremony is rendered void by the law of the land, or in which some statutory requirements have not been observed, or in which one of the parties is incapable of performing the duties of marriage. The law also provides for suits for the restitution of conjugal rights. Before such a suit can be brought there must have been a request of a conciliatory character to the other party to return to cohabitation.

Further particulars relating to divorce will be found in the chapter dealing with Vital Statistics.

## District Courts.

District Courts have been established for the trial of civil causes where the sum in dispute does not exceed £200. They are presided over by Judges who are specially appointed for the purpose, and who also perform the duties of Chairmen of Quarter Sessions, in which capacity they are competent to try all prisoners except such as are charged with capital crimes. District Courts sit during ten months of the year in the metropolis, and they are held twice a year in all considerable country towns. The Judge is not ordinarily assisted by a jury, but in cases where the amount in dispute exceeds £20, either of the parties may, by giving notice to the Registrar of the Court, have a jury summoned. On questions of law, and in respect to the admission or rejection of evidence, an appeal lies to the Supreme Court.

The number of suits brought in the District Courts of the state, and the mode in which they were tried, are given in the following table for the judicial year ended 1st March, 1901 :—

| District. | Summonses. | | | | | | Causes tried. | | Costs of the Suits. |
|---|---|---|---|---|---|---|---|---|---|
| | Causes tried. | Causes settled without hearing and not proceeded with. | Causes referred by parties to arbitration. | Causes left in arrear. | Total summonses issued. | Total amount sued for. | Verdict for— Plaintiff. | Verdict for— Defendant. | |
| Metropolitan and Hunter | No. 1,317 | No. 645 | No. 1 | No. 567 | No. 2,530 | £ 68,344 | No. 1,189 | No. 128 | £ 5,583 |
| Southern | 217 | 181 | 1 | 60 | 459 | 8,938 | 203 | 14 | 671 |
| South-western | 179 | 150 | 1 | 29 | 359 | 10,788 | 159 | 20 | 1,081 |
| Western | 207 | 107 | ... | 68 | 382 | 12,019 | 177 | 30 | 946 |
| Northern | 293 | 181 | .. | 51 | 525 | 15,507 | 249 | 44 | 1,604 |
| North-western | 108 | 60 | ... | 9 | 177 | 6,615 | 95 | 13 | 858 |
| Total | 2,321 | 1,324 | 3 | 784 | 4,432 | 122,211 | 2,072 | 249 | 10,743 |

Of the 2,321 causes heard during 1900-01, only 47 were tried by jury. During the same period there were 5 appeals from judgments given in District Courts, of which 3 were sustained. There were also 12 motions for new trials, 4 of which were granted and 8 refused.

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### Magistrates' Courts.—Small Debts Cases.

Magistrates' Courts in the metropolitan district can adjudicate upon cases where the amount in dispute does not exceed £10, and in the country districts upon cases involving an amount not exceeding £30. The total number of small debts cases brought before Magistrates' Courts during 1900 was 23,290, of which 9,244 were heard in the metropolitan courts, and 14,046 in the country courts. Of the metropolitan cases there were 7,541 in which the amount involved was under £5; and 1,703 in which it was between £5 and £10. Of the cases tried in the country, there were 9,764 in which the amount was under £5; 2,817 in which it was between £5 and £10; and 1,465 in which it was between £10 and £30.

### Licensing Courts.

In the metropolitan district of the state the Licensing Court for the sale of intoxicants consists of the Stipendiary Magistrates, with the addition of a Justice of the Peace specially appointed for the purpose, bringing the number of occupants of the Bench up to seven, three of whom form a quorum; while in the country districts the local Police Magistrate and two Justices of the Peace, also specially appointed, constitute the Court. There has been an absolute decrease in the number of licensed public-houses in the metropolitan district since 1881, attributable to the operations of the Licensing Act, which came into force in that year. In the succeeding year the number of licensed houses in the metropolitan area was 940, and in the country districts, 2,123; eighteen years later the numbers were 792 and 2,371 respectively—a decrease equal to 15·7 per cent. in the metropolis, and an increase in the country districts of 11·7 per cent. The following table gives particulars respecting the number of public-houses, and the average number of residents to each :—

| Year. | Number of Licensed Houses. | | | Average number of Residents in District to each House. | | |
|---|---|---|---|---|---|---|
| | Metropolitan. | Extra-Metropolitan. | State. | Metropolitan. | Extra-Metropolitan. | State. |
| 1891 | 847 | 2,594 | 3,441 | 453 | 293 | 332 |
| 1892 | 834 | 2,607 | 3,441 | 467 | 304 | 343 |
| 1893 | 812 | 2,558 | 3,370 | 484 | 320 | 359 |
| 1894 | 795 | 2,495 | 3,290 | 498 | 337 | 376 |
| 1895 | 793 | 2,445 | 3,238 | 505 | 353 | 391 |
| 1896 | 789 | 2,387 | 3,176 | 516 | 369 | 405 |
| 1897 | 789 | 2,381 | 3,170 | 525 | 376 | 413 |
| 1898 | 789 | 2,364 | 3,153 | 535 | 386 | 423 |
| 1899 | 792 | 2,349 | 3,141 | 546 | 388 | 428 |
| 1900 | 792 | 2,371 | 3,163 | 606 | 369 | 428 |

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The following table, giving the number of licenses current during each of the last ten years for the sale of the wines of the state, will be found interesting:—

| Year. | Metropolis. | Country. | Total. |
|---|---|---|---|
| 1891 | 192 | 298 | 490 |
| 1892 | 215 | 291 | 506 |
| 1893 | 241 | 270 | 511 |
| 1894 | 233 | 267 | 500 |
| 1895 | 271 | 273 | 544 |
| 1896 | 266 | 295 | 561 |
| 1897 | 293 | 299 | 592 |
| 1898 | 294 | 314 | 608 |
| 1899 | 345 | 309 | 654 |
| 1900 | 349 | 326 | 675 |

## PATENTS.

The law relating to the registration of inventions and improvements has been in force since 1853, but it is only within recent years that the provisions of the Act have been availed of to any great extent. In 1879 and 1887 the law was amended and the fees reduced to the nominal sum of £5 for complete Letters Patent, and £2 for a Certificate of Provisional Protection, which latter may, if application be made within twelve months from its granting, be converted into a patent on the payment of an additional £3. The result has been that the business of the Patent Office has greatly increased. The inventions registered in 1900 were for the most part not local but foreign, and this feature has marked the operations of the Patent Office since its inception. The following is the number of patents and assignments thereof for inventions or improvements registered from 1855 to 31st July, 1887, under Acts 16 Vic. No. 24 and 42 Vic. No. 27:—

| Year. | Number of Registrations. | | |
|---|---|---|---|
| | Patents. | Assignments. | Total. |
| 1855–59 ..... | 26 | ..... | 26 |
| 1860–69 ..... | 173 | 27 | 200 |
| 1870–79 ..... | 426 | 137 | 563 |
| 1880–87 ..... | 1,164 | 189 | 1,353 |
| Total to 31st July, 1887 | 1,789 | 353 | 2,142 |

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The following have been granted under Act 51 Vic. No. 3 :—

| Year. | Letters Patent. | Letters Patent to supersede certificates. | Certificates of Provisional Protection. | Assignments. | Licenses. |
|---|---|---|---|---|---|
| *1887 | 225 | 12 | 183 | 15 | ..... |
| 1888 | 490 | 75 | 252 | 58 | ..... |
| 1889 | 518 | 89 | 278 | 84 | 3 |
| 1890 | 494 | 105 | 274 | 100 | 2 |
| 1891 | 540 | 101 | 252 | 111 | 3 |
| 1892 | 596 | 82 | 208 | 105 | 8 |
| 1893 | 366 | 77 | 240 | 118 | 19 |
| 1894 | 410 | 81 | 310 | 80 | 44 |
| 1895 | 478 | 88 | 301 | 104 | 17 |
| 1896 | 545 | 111 | 314 | 91 | 12 |
| 1897 | 569 | 103 | 344 | 112 | 18 |
| 1898 | 512 | 110 | 322 | 104 | 10 |
| 1899 | 610 | 129 | 346 | 114 | 16 |
| 1900 | 572 | 115 | 271 | 163 | 7 |

* From 1st August to 31st December.

The numbers of certificates of Provisional Protection and Letters Patent applied for since the amending Act became law on the 1st August, 1887, are 3,895 and 6,825 respectively, and during 1900 the totals were 271 and 572, while 163 assignments were registered during the latter period. In addition to these, 115 Letters Patent to supersede Certificates and 7 Licenses were registered in 1900. The countries from which applications for certificates of Provisional Protection and Letters Patent in New South Wales were received are as follow :—

| Country. | Registered during 1900. | Total registered since the 1887 Act became law. | Country. | Registered during 1900. | Total registered since the 1887 Act became law. |
|---|---|---|---|---|---|
| Australasia— | | | France and New Caledonia.. | 14 | 118 |
| New South Wales ..... | 264 | 4,057 | Germany ..... | 11 | 144 |
| Victoria ..... | 155 | 2,060 | Hawaiian Islands ..... | .... | 2 |
| Queensland ..... | 26 | 246 | Italy ..... | .... | 9 |
| South Australia ..... | 27 | 381 | Japan ..... | .... | 1 |
| Western Australia ..... | 12 | 67 | Netherlands ..... | .... | 5 |
| Tasmania ..... | 8 | 62 | Portugal ..... | .... | 2 |
| New Zealand ..... | 56 | 720 | Russia ..... | 2 | 13 |
| United Kingdom..... | 124 | 1,667 | Transvaal ..... | .... | 28 |
| Canada ..... | 10 | 72 | Spain ..... | .... | 2 |
| Cape Colony ..... | 1 | 6 | Cuba ..... | .... | 1 |
| Fiji ..... | 1 | 2 | Sweden ..... | 4 | 24 |
| India ..... | .... | 3 | Norway ..... | 1 | 3 |
| Natal ..... | .... | 1 | Switzerland ..... | .... | 4 |
| Argentine Republic ..... | .... | 3 | Turkey ..... | 1 | 1 |
| Austria ..... | 3 | 23 | United States ..... | 114 | 951 |
| Belgium ..... | 1 | 25 | | | |
| Denmark ..... | 3 | 27 | Total ..... | 843 | 10,720 |

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It will thus be seen that out of the total of 10,720 applications under the present Act, 4,057, or over 37·8 per cent., were made by persons residing in the state, though not necessarily for inventions perfected in New South Wales.

## Copyright.

The Copyright Act in force in this state was passed on the 14th May, 1879, and became law on the 1st July, 1879. The Act is divided into four parts, dealing with the following subjects :—Part I : Literary, Dramatic, and Musical Works ; Part II : Fine Arts ; Part III : Designs ; Part IV. Miscellaneous Provisions.

Part I provides for the registration of copyright in books or publications, as understood in the widest sense of the term, and for every new edition containing any alterations in the matter; and also for the registration of playright, or the right of representing or performing dramatic or musical productions, whether previously printed and published or not. In this state copyright is registered only for works first published here, and it commences to run on first publication, representation, or performance ; but no remedy can be obtained or legal proceedings taken for anything done before registration. The term of protection is 42 years, or the life of the author plus 7 years, whichever is the longer period. Nothing blasphemous, seditious, immoral, or libellous is entitled to be registered, nor any mere advertisement. Literary works for which registration is sought must be submitted to the Registrar in a complete state as published ; but dramatic or musical works may be in manuscript, which is returned. One of the best copies issued of the first and each subsequent edition of every printed "book" published in the state must, within two months of publication, be delivered to the Public Library of New South Wales and to the Librarian of the University of Sydney. The penalty for default in delivering library copies is forfeiture of the value of the book and a sum not exceeding £10. Library copies must be delivered whether the book is registered or not. Lectures receive protection without being registered, on compliance with the requirements of the Act ; but lectures are public property if delivered in any University, Public School, or College, or on any public foundation, or by any individual by virtue of or according to any gift, endowment, or foundation. The registration fee is 5s. ; and the fee for a copy of entry, whether required by the proprietor or anyone else, is 3s.

Part II gives copyright in paintings, drawings, works of sculpture, and engravings, including the design thereof, for 14 years, and in photographs and the negatives thereof, for 3 years. The fees to be paid are :— 1s. for photographs and their negatives and for chromographic cards, 5s. for other subjects, and 3s. for copies of entry. Copyright in a work of fine art which has not been executed under commission does not of necessity either follow the work or remain with the artist, but ceases to

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exist, unless it has been secured by agreement between the parties, signed at or before the time of the sale or disposition of the original. To entitle a work to copyright it must be new and original, and must have been executed in the state.

Part III. Under this part of the Act protection can be obtained for new and original designs, not previously published in this state or elsewhere, such designs being applicable to articles of manufacture or works of art, whether intended for purposes of utility, ornament, or otherwise. The protection does not extend to the article itself, but only to the design thereof; consequently, it does not apply to any mechanical action, principle, contrivance, application, or adaptation, or to the material of which the article is composed. The substances to which designs may be applied are for registration purposes divided by the Act into fourteen classes, two years' protection being assigned to some classes, and three years to others. The design must be applied within the state. The registration fee is 10s., and registered designs must bear a registration mark. If protection is required in more classes than one, it can only be secured by simultaneous registration.

Part IV contains general provisions, and amongst other matters declares copyright to be personal property, assignable at law, and transmissible by bequest, and subject in case of intestacy to the same law of distribution as other personal property.

The Copyright Law of England is comprised chiefly in some fourteen Acts of Parliament, of an unusually obscure and conflicting character, and is extensively elaborated by judicial decisions. Under the "International Copyright Act, 1886," 49 & 50 Vic. c. 33, and the Orders in Council thereunder, the greater part of this body of law, together with the terms of the Copyright Convention of Berne, is made reciprocally applicable to Great Britain and each of her Dependencies, and to the countries that are parties to the Convention, with their colonies, namely:—Germany; Spain, with her colonies; France, with her colonies and Algeria; Great Britain, with her colonies and possessions; Belgium, Haiti, Italy, Switzerland, Norway, Luxemburg, Monaco, Montenegro, and Tunis—previous copyright treaties being for the most part abrogated.

Copyright when registered in a foreign country is covered by the local law within that country, and by the International Copyright Acts and the Convention thereunder, within the British Dominions, and *vice versa*.

Literary matter published in any part of the British Dominions may now be protected by copyright throughout the whole Empire, by registering the work in the country of origin if there is a local Registry, or at the London Office if there is not. Proprietorship in registered Colonial copyright can be asserted in any Court in the Empire by producing a copy of entry issued by the Copyright Office of the country of origin, and authenticated by the Governor or proper Minister of that country.

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The registrations of copyright effected in New South Wales have been :—

| | During 1900. | From the passing of the Act in 1879 to 31st December, 1900. |
|---|---|---|
| PART I. *Literature* :— | | |
| Printing and publishing right— | | |
| Books | 59 | 952 |
| Periodicals | 9 | 248 |
| Music | 42 | 209 |
| Playright— | | |
| Drama | 2 | 70 |
| Music | 2 | 13 |
| Total | 114 | 1,492 |
| PART II. *Fine Arts* :— | | |
| Painting | 8 | 79 |
| Drawing | 4 | 72 |
| Sculpture | 9 | 18 |
| Engraving | 10 | 188 |
| Photography | 60 | 771 |
| Total | 91 | 1,128 |
| PART III. *Designs*.—Useful, Ornamental, or otherwise | 49 | 564 |
| Grand Total | 254 | 3,184 |

The yearly receipts from registration of copyrights do not usually reach £40. The highest sum in any year was £78 18s. in 1900, and the lowest £25 13s. in 1889. During 1900 a total sum of £78 18s. was received under the following heads :—Literature, £41 13s.; Fine Arts, £12 1s.; and Design, £25 4s.

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# DEFENCE.

NEW South Wales was garrisoned with British troops from the time of its foundation in 1788 until the year 1870. For part of the years 1870 and 1871 there were no regular troops, the Volunteer Force having entire control of all matters of defence. In 1871 a local regular defence force was enrolled, comprising one battery of Artillery and two companies of foot. The latter were disbanded in the following year; but the Artillery was strengthened by a second battery in 1876, and a third in 1877. In 1888 the permanent force, which until that year had consisted of only one arm, was extended to include corps of Submarine Miners and Mounted Infantry. The latter, however, ceased to exist in 1890; but a fourth battery was added to the Artillery, and in 1891 a third arm was again raised in the form of a Medical Staff Corps.

To supplement the Imperial troops in Australia, a volunteer force was enrolled in 1854, Great Britain being then at war with Russia. The Act authorising the establishment of this force was 18 Vic. No. 8. The original strength of the corps was one troop of Cavalry, one battery of Artillery, and six companies of foot, called the 1st Regiment of New South Wales Rifles; but with the termination of the Crimean war the Volunteers practically ceased to exist. A few years later, in 1860, a second force was enrolled, consisting of one troop of Mounted Rifles, three batteries of Artillery—two being stationed at Sydney, and one at Newcastle—and twenty companies of Infantry, fourteen of which were recruited from Sydney and its suburbs, and six from the country districts; the total strength of all arms being about 1,700 men. The existence of the Mounted Rifles was brief, for they were disbanded in 1862, and more Artillery raised in their stead. In the following year a Naval Brigade was enrolled to assist in the defence by sea. In 1868 the military force was reorganised under the Volunteer Regulation Act, passed towards the close of the previous year, each man receiving a grant of 50 acres of land for five years' efficient service. The land orders, however, were abolished in 1874, and a direct system of partial payment introduced. In 1878 a further reorganisation of the Volunteer troops took place in accordance with a plan drawn up by Sir William Jervois, and the present force is serving under the Act of 1867 as amended in that year. A

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corps of Naval Artillery Volunteers, who were to receive no remuneration, but only an allowance for instruction and incidental expenses, was raised in 1882, and it was followed a few years later by numerous bodies of military reserves, comprising all the principal arms, on the same footing; but all were gradually disbanded or merged in the partially-paid forces, until at the end of 1895 the small body of the Scottish Rifles was the only one which was strictly entitled to be classed as a Volunteer corps. In 1896, however, three rifle corps, designated the Irish Rifles, the St. George's Rifles, and the Australian Rifles, were raised. The Scottish and Irish Rifles comprise the 5th Regiment; the Australian Rifles, the 6th Regiment; and the St. George's Rifles, the 7th Regiment. During 1897 two new corps of volunteers were enrolled, viz., the First Australian Volunteer Horse, and the Railway Volunteer Corps. A "National Guard," consisting of old volunteers of the state, or men who have served elsewhere, was also established. In 1899 the Railway Volunteer Corps was disbanded, and during 1900 the Australian Horse came under the partially-paid system. The volunteer forces were strengthened during 1900 by the addition of the Canterbury Mounted Rifles, Civil Service Corps, Drummoyne Volunteer Company, and the Army Nursing Service Reserve. The United Service Institution of New South Wales, which aims at the promotion of military and naval art, science and literature amongst the officers of the military and naval forces, had a membership of 133 at the close of 1900. The Defence Force Rifle Association, Sydney, was incorporated in 1899 under regulations approved by Government, and several meetings have taken place, keen interest being manifested in the shooting competitions.

The total defence forces of the state at the end of 1900—exclusive of Reservists and Civilian Rifle Clubs numbering 1,908 and 1,096 respectively—numbered 9,845 officers and men, distributed as follows:—

MILITARY.

*Permanent Troops*:—

| | |
|---|---|
| Headquarters Staff | 26 |
| Military Secretary | 17 |
| Ordnance Staff | 41 |
| Artillery | 557 |
| Staff Office Engineer Services | 25 |
| Engineers (Submarine Miners) | 31 |
| Army Service Corps | 16 |
| Army Medical Corps | 12 |
| Veterinary Department | 1 |
| Total | 726 |

*Partially-paid Troops*:—

| | |
|---|---|
| Lancers | 635 |
| 1st Australian Horse | 629 |
| Mounted Rifles | 421 |
| Field Artillery | 131 |
| Garrison Artillery | 437 |
| Engineers—Field | 124 |
| Submarine Miners | 80 |
| Electricians | 93 |
| Infantry—1st Regiment | 635 |
| 2nd Regiment | 635 |
| 3rd Regiment | 624 |
| 4th Regiment | 633 |
| Army Service Corps | 139 |
| Army Medical Corps | 117 |
| Veterinary Department | 3 |
| Total | 5,336 |

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MILITARY—*continued.*

| | | | |
|---|---|---|---|
| *Volunteers :—* | | *Honorary :—* | |
| Canterbury Mounted Rifles..... | 49 | Chaplains ..... | 20 |
| Infantry—Australian Rifles..... | 618 | Medical Officers .. ..... | 33 |
| National Guard..... | 181 | | |
| St. George's Rifles... | 650 | Total..... | 53 |
| Scottish Rifles ..... | 650 | | |
| Irish Rifles..... ..... | 739 | Total Military..... | 9,231 |
| Civil Service Corps | 148 | | |
| Drummoyne Volunteer Company..... | 55 | NAVAL. | |
| Army Nursing Service Reserve ..... | 26 | Naval Defence Force ..... | 4 |
| | | Naval Brigade ..... ..... ..... | 363 |
| Total... ..... ..... | 3,116 | Naval Artillery ..... | 242 |
| | | Torpedo Boats (2) ..... | 5 |
| | | Total..... ..... | 614 |
| | | Actual Strength of Military and Naval Forces..... | 9,845 |

During the absence of men with the military contingents in South Africa and the naval contingent in China, the effectiveness of the defence forces of the state was fully maintained.

Consequent upon the inauguration of the Commonwealth of Australia in the early part of the year 1901, all matters relating to defence were transferred to the authorities of the Commonwealth, and the control of the military and naval forces of this state is now in the hands of a responsible minister of the Federal Government.

## PERMANENT TROOPS.

The actual strength of the Military Forces of the state on the 31st December, 1900, was 9,231, or 402 below the establishment. The Permanent Troops numbered 726 of all ranks. The Headquarters Staff, Military Secretary, and the Ordnance Staff were, of course, all located in Sydney. The Engineers, Army Service Corps, Army Medical Corps, and Army Nursing Service Reserve are all stationed in the Metropolitan District, where are also located the Artillery, with the exception of the small garrisons manning the forts in the South Coast and Northern Districts. As before mentioned, the Defence Department is now entirely controlled by the Commonwealth authorities. Rates of pay for the various branches of the Force are now receiving consideration under a report lately presented by the Commonwealth Defence Pay Committee. The rates of pay of the Artillery of New South Wales, exclusive of allowances, were on the 30th June, 1900:—Officer commanding, £730; lieutenant-colonel, £420; majors, £356; captains, £321; lieutenants, £180 to £216; warrant-officers, 6s. 10d. to 9s. 9d. per diem; sergeant-majors and quartermaster-sergeants, 5s. 2d. to 7s. 10d. per diem; sergeants, from 4s. to 6s. 10d. per diem; corporals, 3s. 6d. to 3s. 10d. per diem; bombardiers, 3s. 2d. per diem; trumpeters, 1s. 6d. to 2s. 3d. per diem;

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master gunners, 6s. 10d. to 7s. 10d. per diem; gunners, 2s. 3d. per diem. The Engineers (Submarine Miners) are paid as follows:—Officer commanding, £384; sergeant-major, 8s. 4d. per diem; sergeants, 7s. 4d. per diem; corporals, from 5s. to 6s. 4d. per diem; sappers, 4s. per diem, and bugler, 2s. 3d. per diem. The Artillery man the batteries guarding the harbours of Sydney, Botany Bay, Wollongong, and Newcastle; mount guard at the vice-regal residence, and perform such other duties as usually appertain to a garrison. The troops are a fine body of men. The minimum height at which recruits are accepted is 5ft. 6in. for drivers, and 5ft. 8in. for gunners. In 1899, authority was given the Permanent Artillery to be styled the New South Wales Regiment of the Royal Australian Artillery.

The British military authorities afford facilities to New South Wales officers to gain a better knowledge of the duties of their profession than they could acquire in the state, by sanctioning their attachment to corps serving in India. These facilities have on several occasions been taken advantage of, and an insight into the routine of the large cantonments has been gained, as well as actual campaign experience. Another important step in the direction of securing efficiency in the defence forces was taken in 1899, when a detachment of New South Wales Lancers was sent to England to undergo a period of training at the great military encampment at Aldershot. The suggested exchange of duties between a company of the Royal Artillery and one of the New South Wales Artillery has been approved, and it is expected that much good will result from the interchange of the troops. It is hoped that the principle will be adopted with other branches of the service.

### Partially-paid and Volunteer Troops.

The Partially-paid Troops and Volunteers consist of eight arms in addition to the honorary staff of chaplains and medical officers, the total strength of the force being 8,505 men of all ranks, as shown in the preceding table. The Army Medical Corps was raised in 1888, and originally consisted of one company, a second being added in 1893. The partially-paid portion, numbering 117, is stationed in Sydney. During 1900 the Army Nursing Service Reserve was established in connection with the Army Medical Corps. It consists of 26 nursing sisters possessing the highest nursing qualifications and training.

The cavalry regiment known as the New South Wales Lancers was first raised in 1885 as a volunteer reserve corps, under the name of the Light Horse; but in 1888 the men were merged in the partially-paid troops, under their present designation. They provide their own horses and equipment, uniform and arms being supplied by the Government. The corps has been re-armed with the Martini-Enfield carbine. In 1899, 3 officers and 102 non-commissioned officers and men proceeded

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to England and underwent practical training with cavalry at Aldershot. On the outbreak of war in South Africa a portion of this squadron volunteered for service at the front, and was the first of the Australian forces accepted by the Imperial Government. The regiment is distributed throughout five districts, as follows :—

| | |
|---|---|
| Sydney and Suburbs | 236 |
| Southern District | 50 |
| Western District | 99 |
| South Coast District | 50 |
| Northern District | 200 |
| Total | 635 |

Unlike the Lancers, the Mounted Rifles were directly enrolled in 1889 as a partially-paid body, being strengthened by the inclusion of a part of the Light Horse to which reference has already been made. The corps has been re-armed with the ·303 Martini-Enfield rifle. They now number 470, distributed as follows :—

| | |
|---|---|
| Sydney and Suburbs | 49 |
| Southern District | 111 |
| Western District | 118 |
| South-western District | 49 |
| South Coast District | 47 |
| Northern District | 96 |
| Total | 470 |

The First Australian Horse were raised in 1897, and at the end of 1900 numbered 629 officers and men, distributed as follows :—

| | |
|---|---|
| Sydney and Suburbs | 4 |
| Southern District | 102 |
| Western District | 88 |
| South-western District | 166 |
| South Coast District | 112 |
| Northern District | 157 |
| Total | 629 |

The Canterbury Mounted Rifles were enrolled in 1900, and the corps now consists of 49 officers and men.

The Artillery, both permanent and under the partially-paid system, consist of 1,125 men of all ranks, of whom 131 compose the field batteries. They were first enrolled in 1867, when 4 batteries, one of which was a field battery, were formed. In 1885 an unpaid force of four batteries was raised as a reserve, but two of these were disbanded in 1892, and the others included in the partially-paid force, forming a second field battery. In the following year the Volunteer field batteries were united with the permanent one to form the Brigade Division Field Artillery. The other batteries were designated the Second

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Garrison Division Artillery, the First Garrison Division being the permanent force. The men are distributed over three districts, the strength of each being :—

| | |
|---|---|
| Sydney and Suburbs | 928 |
| South Coast District | 91 |
| Northern District | 106 |
| Total | 1,125 |

The Engineers are located in Sydney. As originally formed in 1867, they consisted of one field company. Torpedo and signalling corps were recruited ten years later, and in 1890 another field company was raised. In 1893 the whole force was united with the permanent Submarine Miners to form a corps of Engineers. The torpedo and signalling corps were respectively designated Submarine Miners and Electricians, the regulars forming the permanent section of the first of these corps. The Field Companies number 124 men of all ranks; and the Partially-paid Submarine Miners and the Electricians are 80 and 93 strong respectively.

The present Infantry Regiments, known as the 1st, 2nd, 3rd, and 4th, were originally designated the Sydney, South Sydney, Western, and Northern Battalions. In 1885 unpaid foot reserves were raised as the 5th and 6th Regiments, the former consisting of the present Scottish Rifles. The infantry reserves, however, were gradually weakened, and many of the men were formed into Reserve Rifle Companies, the remainder in 1892 being absorbed by the 1st, 2nd, 3rd, and 4th Regiments when their establishment was raised from eight to ten companies. At the end of the same year the Rifle Companies were disbanded, and Civilian Rifle Clubs formed, and these clubs now include 1,096 men, in addition to Reservists, of which the approximate strength, at the end of 1900, was 1908. In 1894 the partially-paid regiments of infantry were strengthened by the absorption of the "Senior Cadets," the older division of a cadet force established in connection with the public schools of the state; the younger division, known as the Cadet Force, and now numbering 97 corps, with an enrolment of 3,436 youths, remaining under the control of the Minister of Public Instruction. As already stated, Volunteer Corps, known as the Irish Rifles, Australian Rifles, and St. George's Rifles, were raised in 1896, the first-mentioned body, with the Scottish Rifles, forming the 5th Regiment, and the other corps, the 6th and 7th Regiment respectively; and in 1897 the Railway Volunteer Corps was established, this body being recruited from employees on the Government railways, but the corps was disbanded in 1899. The Infantry corps were strengthened in 1897 by the formation of the National Guard, now numbering 181, the members of which have had some military experience either in regular or volunteer forces. In 1900 the Civil Service corps, numbering 148, was raised, as its name implies, from the members of the Public Service of the state, and in the same year the Drummoyne Volunteer Company was established,

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with an enrolment of 55 men. The infantry force is distributed over six districts, the strength of each being:—

| | |
|---|---|
| Sydney and Suburbs | 3,262 |
| Southern District | 220 |
| Western District | 624 |
| South Western | 235 |
| South Coast District | 277 |
| Northern District | 950 |
| Total | 5,568 |

The Army Service Corps was raised in 1881 under the title of the Commissariat and Transport Corps, its designation being changed two years later. It comprises 155 officers and men, all of whom are stationed in the metropolis. All the Infantry regiments have been provided with magazine rifles. Greater interest has lately been shown by the public in matters of defence, and the number of men desirous of joining the Volunteer Forces of the state is much in excess of that for which provision is made. The erection of a much-needed central drill hall at Sydney is delayed pending a decision as to a suitable site. Drill halls are to be found in most of the important country towns, and more of these necessary buildings for the use of the Volunteer Forces are in course of erection.

Volunteers are admitted between the ages of 18 and 40 years. To rank as efficient, the Artillery are required to attend 2 out of 3 whole-day parades, 6 out of 8 half-day parades, and 12 out of 16 night parades and shot practice; the Engineers (Field Companies) to attend 2 out of 3 whole-day parades, 9 out of 14 half-day parades, and 9 out of 12 night drills; the Submarine Miners, 14 out of 17 whole-days' training in camp; the Infantry and Mounted Brigade, 2 out of 3 whole-day parades, 9 out of 13 half-day parades, and a complete course of musketry; Army Service Corps and Medical Staff Corps, 2 out of 3 whole-day parades, and 6 out of 8 half-day parades. Annual inspection by the General Officer Commanding or his representative is included in the foregoing. Pay is granted to all ranks according to a sliding scale, gunners, sappers, and privates receiving 8s. for each whole-day parade, 4s. for a half-day parade, and 2s. for a night parade. In addition to these sums, every Volunteer who passes through the musketry course and qualifies as a marksman is granted 12s.; and, if he should qualify at the end of the year as an efficient, a further sum of £1 12s., unless he be a Submarine Miner, in which case he is granted £2 for efficiency and £2 16s. for extra proficiency.

A commission in the British Army is offered annually to a student of the Sydney University under regulations issued with Army Orders of 1st January, 1892, and amended regulations, dated 1st January, 1892; the University may also nominate one student every year to a cadetship in the Royal Military College at Sandhurst. The Secretary of State for War has also offered nominations of graduates in medicine for appointment to the Army Medical Staff. The offer of men and horses

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to assist the British troops in South Africa furnishes a striking proof of the attachment of Australia to the mother country. The following table shows the respective strengths of the contingents dispatched from each state of the Commonwealth of Australia and from New Zealand:—

| State | Officers. | Non-commissioned Officers and Men. | Total. | Horses. |
|---|---|---|---|---|
| Commonwealth of Australia— | | | | |
| New South Wales | 252 | 4,504 | 4,756 | 4,557 |
| Victoria | 125 | 2,320 | 2,445 | 2,681 |
| Queensland | 107 | 1,949 | 2,056 | 2,471 |
| South Australia | 65 | 973 | 1,038 | 1,048 |
| Western Australia | 52 | 871 | 923 | 877 |
| Tasmania | 25 | 530 | 555 | 478 |
| New Zealand | 141 | 2,862 | 3,003 | 3,240 |
| Total | 767 | 14,009 | 14,776 | 15,352 |

In addition to the above, numbers of the soldiers upon the expiration of the term of service and return of the military contingents, have accepted "indulgence passages," and again embarked on the troopships of the Imperial Government with the intention of enlisting with the British troops immediately upon arrival in South Africa. The members of the various contingents have been held in the very highest estimation by all the prominent officers of the Imperial Army, and the manner in which arduous and dangerous military duties were performed in South Africa has been the subject of much praise.

## Naval Defence Force.

With the object of strengthening the Imperial fleet on the Australian Station, and securing a naval force sufficiently strong to resist attack in the event of war breaking out between Great Britain and a maritime power, the colonies now constituting the Commonwealth of Australia, and also New Zealand, some years ago, entered into an agreement with the Imperial Government by which an Auxiliary Squadron of seven fast and powerful cruisers and gunboats was built for exclusive service in Australian waters. The combined fleets number no less than fifteen vessels, and, except for the purpose of training the Australian-born youth to take part in the maritime defence of the state, it is unnecessary that New South Wales should have any navy of its own. The only ships of war which it possesses are two small torpedo boats—the Acheron and the Avernus. The state, however, has enrolled in its service two bodies of naval volunteers, who receive a small annual payment, and who would prove very useful as a reserve from which crews could be partly drawn for the three vessels of the Auxiliary Squadron which are laid up in times of peace. It is much to be regretted that no opportunity is afforded the men of the local naval

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forces of acquiring the necessary drill and training on board ship, and the reserve vessels of the squadron might be made to serve this object.

The first of these bodies is the Naval Brigade, which was enrolled in 1863. It consists largely of time-expired seamen of the Royal Navy, discharged from the ships on the Australian Station. At the present time there are no facilities for drilling the men at sea, and in the manœuvres hitherto carried out they have mostly been employed as a light artillery land force. The Brigade comprises 16 commissioned officers, 17 other officers, 26 petty officers, and 304 A.B's, including band. Of this force, 298 are stationed in Sydney and 65 at Newcastle.

The other arm of the naval service is known as the Naval Artillery. This body was organised in 1882, and for the first ten years received no payment, the Government merely supplying arms and uniforms, and annually allowing a sum for instruction and incidental expenses; but in July, 1892, the corps was included amongst the partially-paid forces of the state. The men have been trained in the use of the torpedo, and would be found serviceable for the defence of the harbour should a hostile fleet evade or overcome the British war-vessels. The strength of the corps is 242 men of all ranks, including 18 officers, 24 petty officers, 16 leading seamen, and 184 A.B's., including band. In addition to these there are five men belonging to the corps who are in charge of the torpedo boats, Acheron and Avernus. There are also four staff officers, bringing the total strength of the naval forces up to 614 of all ranks.

The offer of the New South Wales Government to furnish a Naval Contingent to assist the British Naval Force in China was accepted during 1900. The contingent, composed chiefly of members of the Naval Brigade and Naval Artillery, embarked on board the transport steamer "Salamis," on the 7th August, no warship being owned by this state. The contingent acted as a land force, and its services were much appreciated by the Imperial authorities. A similar naval contingent was sent by the Government of Victoria, and the South Australian Government despatched its warship, the "Protector."

The following table shows the respective strengths of the naval contingents despatched from each state to China :—

| State. | Officers. | Non-commissioned Officers and Men. | Total. |
|---|---|---|---|
| New South Wales | 19 | 285 | 304 |
| Victoria | 13 | 185 | 198 |
| South Australia (H. M. C. S. "Protector") | 11 | 92 | *103 |
| Total | 43 | 562 | 605 |

*Includes 2 officers and 1 man lent from Queensland Naval Force.



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## The Imperial Fleet.

The headquarters of the Imperial Fleet and the Australasian Auxiliary Squadron are situated at Port Jackson, under an arrangement with the Imperial authorities, by which the Government of New South Wales undertook to give up Garden Island for the purposes of a naval station, and to erect thereon the requisite buildings, as well as to provide certain other accommodation required for the war-vessels in the harbour. In consideration of this it was agreed that Sydney should be the headquarters of Imperial war-vessels on the Australian Naval Station, and that the Imperial Government should give up all claim to certain lands and buildings owned by them in the state, including the Paddington Barracks, the Domain, and Botanic Gardens, and the old Commissariat Stores, as well as other valuable properties.

Since it is the general opinion that the destruction of shipping and commerce is to be feared before the actual landing in the state of the troops of an enemy, interest in the navy is enhanced by the feeling of almost absolute dependence upon the usefulness of the fleet in time of war.

The following is a list of the Imperial war-vessels now on the Australian station. The Dart and Penguin are engaged in surveying service :—

| Name. | Class. | Displacement. | Indicated horse-power. | Draught of water extreme. | Length. | Beam. | Armament. | Speed. | Coal endurance. | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Guns. | | Coal that can be carried in bunkers. | Distance that can be steamed at 10 knots' speed. |
| | | tons. | | ft. in. | ft. in. | ft. in. | | knots. | tons. | knots |
| Royal Arthur (flagship) | Twin-screw cruiser, 1st class, protected. | 7,700 | 10,000 | 24 10 | 360 0 | 60 8 | One 9·2-in. B.L., 12 6-in. B.L. (Q.F), 12 6-Por., 5 3-Por., 7 Nordenfeldt. | 19·75 | 1,250 | 10,000 |
| Phœbe .. | Twin-screw cruiser, 3rd class. | 2,575 | 7,500 | 15 6 | 265 0 | 41 0 | Eight 4·7-in. Q.F., 8 3-in. Por., Q.F., 4 M., 1 L. | 19·0 | 300 | 4,800 |
| Archer .. | Twin-screw cruiser, 3rd class. | 1,770 | 3,500 | 15 7 | 225 0 | 36 0 | Six 6-in. 5-ton B.L., V.C.P., 8 3-Por., 2 Nordenfeldt. | 16·5 | 325 | 7,000 |
| Pylades.. | Screw cruiser, 3rd class. | 1,420 | 1,610 | 16 11 | 200 0 | 38 0 | 14 5-in. 88-cwt. B.L.R., 8 M., 1 L. | 13·1 | 425 | 6,600 |
| Sparrow. | Screw gun-boat, 1st class. | 895 | 1,200 | 13 3 | 165 0 | 30 0 | Six 4-in. 25-cwt. B.L.R., 2 Q.F. Hotchkiss, 2 M. | 13·0 | 105 | .. |
| Torch .. | Screw sloop.. | 960 | 1,100 | 14 6 | 180 0 | 32 6 | Six 4-in. Q.F., 2 3-por. Q.F. Hotchkiss, 2 0·45-in. Maxim. | 13·25 | 130 | 2,000 |
| Dart .... | Screw yacht.. | 470 | 250 | 12 11 | 133 0 | 25 2 | 2 L., 2 M. ..... | 8·8 | 64 | .. |
| Penguin. | Screw sloop.. | 1,130 | 700 | 14 0 | 180 0 | 38 0 | Two 64-pr. M., 1 L., 2 M. | 10·0 | 200 | .. |

Q.F., Quick-firing guns; M., Machine guns; L., Light guns under 15 cwt.; B.L.R., Breech-loading rifled guns; V.C.P., Vavasseur centre pivot.

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The Royal Arthur has a protective deck of steel, varying in thickness from 1 to 5 inches. The 6-inch guns are also enclosed in casemates of steel 6 inches thick.

The Board of Admiralty may admit one candidate annually to the Medical Branch of the Royal Navy, who has been proposed by the University of Sydney and passed an examination both as to physical and professional fitness before a Board of Naval Medical Officers on the Australian Station. Six cadetships and two engineer studentships in the Imperial Navy are given annually to Australian boys, who must not be less than 14½ nor more than 15½ years of age to qualify for the former, and not less than 14½ nor more than 16½ years of age for the latter appointments. The cadets undergo a course of instruction for about two years on board the "Britannia," training-ship, and at the expiration of their apprenticeship are appointed to the various warships.

In 1889 the Royal Naval House was erected in Sydney, exclusively for the accommodation of men of the British warships. The cost was borne by the Government of New South Wales and citizens of the state, and the institution receives annual grants from the Lords Commissioners of Admiralty and the Government of New South Wales. The Royal Naval House contains large reading-rooms, etc., and has sleeping accommodation for 350 men. It is the only institution of its kind in Australasia.

## The Australasian Auxiliary Squadron.

Under the provisions of the Australasian Naval Force Act, which was assented to on the 20th December, 1887, all the colonies now constituting the Commonwealth of Australia, and also New Zealand, entered into an agreement with the British Government for the payment of a subsidy towards the maintenance of an Australasian Auxiliary Squadron. The annual subvention payable amounts to £91,000 for maintenance and £35,000 as interest charge on the cost of construction at the rate of 5 per cent. per annum, making a total of £126,000, of which New South Wales, according to population, paid £37,973 for the year ended 30th June, 1901. The fleet, which entered Port Jackson on the 5th September, 1891, consists of five cruisers and two torpedo gunboats. Of these, three cruisers and one gunboat are always kept in commission the remainder being held in reserve in Australasian ports, but ready for commission whenever circumstances may require their use. The vessels in reserve at the present time are the Ringarooma and the Boomerang; while the Katoomba is used as the guardship of the reserve. The agreement is for a period of ten years, and is then, or at the end of any subsequent year, terminable, provided two years' notice shall have been given. The Australasian Governments have no voice whatever in the management of the vessels, nor any control over their movements, neither is there any contact between the vessels and the local naval defence forces. On the termination of the agreement the

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vessels will remain the property of the Imperial Government. The strength of the fleet in Australian waters before the Australasian Squadron was built is maintained.

Particulars respecting the vessels of the Australasian Auxiliary Squadron will be found below. The Boomerang and Karrakatta are classed as torpedo gun-boats; all the other vessels are third-class screw cruisers. The deck armour over machinery space is 2 in. and 1 in., and in conning towers 3 in., except in the case of the torpedo boats, the towers of which have 1-in. armour :—

| Name | Displacement. | Indicated horse-power. | Draught of water extreme. | Length. | Beam. | Armament. | | Speed. | Coal endurance. | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Guns. | Torpedo tubes. | | Coal that can be carried in bunkers. | Distance that can be steamed at 10 knots speed. |
| | tons. | | ft. in. | ft. in. | ft. in. | | | knots | tons. | knots |
| Katoomba .... | 2,575 | 7,500 | 17 6 | 265 0 | 41 0 | Eight 4·7 Q.F. guns, eight 3-por. Q.F. guns, one 7-por. M.L.R. gun (boat and field), four 4·45 in. 5 barrel Nordenfeldt. | 4 | 19·2 | 300 | 6,000 |
| Ringarooma·.. | 2,575 | 7,500 | 17 6 | 265 0 | 41 0 | do .. | 4 | 19·2 | 300 | 6,000 |
| Mildura ..... | 2,575 | 7,500 | 16 6 | 265 0 | 41 0 | do | 4 | 19·2 | 300 | 6,000 |
| Wallaroo .... | 2,575 | 7,500 | 17 3 | 265 0 | 41 0 | do .. | 4 | 19·2 | 300 | 6,000 |
| Tauranga .... | 2,575 | 7,500 | 17 6 | 265 0 | 41 0 | do .. | 4 | 19·2 | 300 | 6,000 |
| Boomerang .. | 735 | 3,500 | 10 8 | 230 0 | 27 0 | Two 4·7 in. Q.F. guns, four 3-por. Q.F. guns. | 3 | 19·0 | 160 | 2,500 |
| Karrakatta .. | 735 | 3,500 | 10 9 | 230 0 | 27 0 | do .. | 3 | 19·0 | 160 | 2,500 |

Q.F.—Quick-firing guns. M.L.R.—Muzzle-loading rifled guns.

The Wallaroo was lent to the China Station in July, 1900, in connection with the preparations for hostilities with China.

In the event of any of the squadron being lost the vessel is to be replaced by the British Government.

## Fortifications.

At various points along the coast of New South Wales, extensive fortifications have been constructed, and Sydney, protected as it is by two lines of defence, is regarded as almost impregnable. Botany Bay is strongly fortified, and the works there form the southern defence of the metropolis; while to the north, Newcastle, the great coal port of the state, has also been rendered as secure as possible against attack; and down the coast, to the south, fortifications have been constructed at the towns of Bulli and Wollongong.

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Fortifications have been erected at King George's Sound, Western Australia, and Thursday Island, Queensland, at the joint cost of the five Australian states. In the first case, one-fourth of the cost is borne by Western Australia (which supplies the garrison), and three-fourths by the other states of the Commonwealth on a population basis; while, in the other instances, each of the states contributes according to the number of its inhabitants. It is probable that the important strategic points of Hobart, Tasmania, and Port Darwin in the Northern Territory will also be fortified in the near future.

## Expenditure on Defence.

The expenditure by New South Wales during the year ended 30th June, 1901, from the Consolidated Revenue, on defence works and the Permanent and Volunteer Forces, amounted to £184,802, distributed as follows:—

| Expenditure from Consolidated Revenue— | £ |
|---|---|
| Permanent and Volunteer Military Forces | 127,020 |
| Naval Forces | 5,378 |
| Federal Defence— | |
| Proportion paid by New South Wales Government to— | |
| British Government, for Additional Naval Force (Auxiliary Squadron) | 37,973 |
| Government of Western Australia, for Maintenance of Garrison at Albany, King George's Sound | 2,044 |
| Government of Queensland, for Maintenance of Garrison at Thursday Island | 4,114 |
| Miscellaneous— | |
| Grants in Aid of— | |
| Rifle Associations, &c. | 5,022 |
| Royal Naval House | 200 |
| Military Secretary | 1,026 |
| Rent of premises for the Secretary to the Admiral | 300 |
| Field-firing Range, National Park—Formation of Road, &c | 700 |
| Military Pensions | 1,025 |
| Total from Consolidated Revenue ... | £184, 802 |

Whatever opinion may be entertained of the present condition of the defences of the state, there can be no doubt that a very large sum of money has been expended upon them. The details cannot now be ascertained respecting the earlier defences of the harbour of Port Jackson, such as Fort Phillip, where the Observatory now stands, Fort Macquarie, lately demolished, and Fort Denison, which, with the batteries at Dawes' Point, Kirribilli, and Mrs. Macquarie's Chair, were thought to render Sydney almost impregnable some forty years ago, when the ponderous artillery now in use had not been invented. The returns of expenditure for defence purposes since the assumption of responsible government, are, however, available and are appended hereto. It will be observed that during the forty-four and a half years no less than £5,486,588

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was expended from the Consolidated Revenue, or an average of £123,294 per annum, for these services :—

| Year. | Military Expenditure (including Buildings and Works of Defence). | Naval Expenditure. | Total. | Year. | Military Expenditure (including Buildings and Works of Defence). | Naval Expenditure. | Total. |
|---|---|---|---|---|---|---|---|
| | £ | £ | £ | | £ | £ | £ |
| 1857 | 31,824 | 538 | 32,362 | 1881 | 80,215 | 5,810 | 86,025 |
| 1858 | 23,974 | 3,296 | 27,270 | 1882 | 96,387 | 12,858 | 109,245 |
| 1859 | 18,376 | 6,089 | 24,465 | 1883 | 117,554 | 15,202 | 132,756 |
| 1860 | 30,373 | 2,910 | 33,283 | 1884 | 147,725 | 14,960 | 162,685 |
| 1861 | 68,085 | 2,275 | 70,360 | 1885 | 224,318 | 18,895 | *243,213 |
| 1862 | 24,188 | 4,330 | 28,518 | 1886 | 200,488 | 18,696 | 219,184 |
| 1863 | 18,845 | 1,943 | 20,788 | 1887 | 156,681 | 6,670 | 163,351 |
| 1864 | 25,789 | 1,054 | 26,843 | 1888 | 158,479 | 9,210 | 167,689 |
| 1865 | 14,522 | 2,508 | 17,030 | 1889 | 206,457 | 11,582 | 218,039 |
| 1866 | 18,167 | 3,522 | 21,689 | 1890 | 224,352 | 11,195 | 235,547 |
| 1867 | 23,762 | 3,772 | 27,534 | 1891 | 275,343 | 12,085 | 287,428 |
| 1868 | 30,824 | 4,096 | 34,920 | 1892 | 240,258 | 81,746 | 322,004 |
| 1869 | 31,278 | 3,570 | 34,848 | 1893 | 205,425 | 13,925 | 219,360 |
| 1870 | 22,241 | 3,612 | 25,853 | 1894 | 219,158 | 53,200 | 272,358 |
| 1871 | 31,952 | 3,964 | 35,916 | †1895 | 109,498 | 42,592 | 152,090 |
| 1872 | 43,055 | 3,995 | 47,050 | 1895–6 | 173,580 | 47,546 | 221,126 |
| 1873 | 48,567 | 4,886 | 53,453 | 1896–7 | 166,119 | 46,895 | 213,014 |
| 1874 | 81,223 | 5,034 | 86,257 | 1897–8 | 185,960 | 47,284 | 233,244 |
| 1875 | 39,092 | 5,213 | 44,305 | 1898–9 | 196,408 | 47,326 | 243,734 |
| 1876 | 62,385 | 5,548 | 67,933 | 1899–1900 | 200,787 | 47,874 | ‡248,161 |
| 1877 | 117,263 | 5,565 | 122,828 | 1900–1 | 140,951 | 43,851 | §184,802 |
| 1878 | 87,590 | 4,618 | 92,208 | | | | |
| 1879 | 92,216 | 5,219 | 97,435 | Total ... | 4,784,446 | 702,142 | 5,486,588 |
| 1880 | 72,712 | 5,683 | 78,395 | | | | |

* Exclusive of £121,630, cost of Contingent to the Soudan. † Six months.
‡ Exclusive of £158,748 expended during the year on Contingents to South Africa.
§ Exclusive of £179,702 expended during the year on Contingents to South Africa, also Naval Contingent to China, £32,006, and Commonwealth expenditure, Military and Naval Forces, £85,765.

In addition to the sums paid out of current revenue, a large amount of loan money has been expended chiefly in the erection of fortifications, which it is expected will serve for the protection of future generations as well as the present. The details of this expenditure are as follow :—

Previous to 1871..... ..... £80,805.

| | £ | | £ | | £ |
|---|---|---|---|---|---|
| 1871 ..... | 43,601 | 1882 ..... | 39,757 | 1893 ..... | 17,128 |
| 1872 ..... | 24,466 | 1883 ..... | 24,819 | 1894 ..... | 15,183 |
| 1873 ..... | 25,134 | 1884 ..... | 4,683 | *1895 ..... | 2,414 |
| 1874 ..... | 22 | 1885 ..... | 54,729 | 1895–6 ..... | 17,629 |
| 1875 ..... | 368 | 1886 ..... | 61,814 | 1896–7 ..... | 6,603 |
| 1876 ..... | 4,566 | 1887 ..... | 8,350 | 1897–8 ..... | 31,183 |
| 1877 ..... | 3,735 | 1888 ..... | 122,296 | 1898–9 ..... | 52,087 |
| 1878 ..... | 33,227 | 1889 ..... | 56,440 | 1899–1900 | 29,423 |
| 1879 ..... | 21,270 | 1890 ..... | 46,982 | 1900–1 ..... | 61,170 |
| 1880 ..... | 14,582 | 1891 ..... | 111,896 | | |
| 1881 ..... | 22,640 | 1892 ..... | 54,478 | Total...£1,103,420 | |

* Six months.

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Another source of expenditure to the state is that of the Naval Station in Port Jackson, to which reference has been made under the heading of the Imperial Fleet. In carrying out the works at Garden Island and the alterations at Kirribilli Point the following expenditure has been incurred :—

| Year. | Amount. £ | Year. | Amount. £ |
|---|---|---|---|
| 1885 | 642 | *1895 | 9,210 |
| 1886 | 33,928 | 1895–6 | 4,345 |
| 1887 | 15,431 | 1896–7 | Nil. |
| 1888 | 52,013 | 1897–8 | 2,964 |
| 1889 | 15,574 | 1898–9 | 1,567 |
| 1890 | 42,768 | 1899–1900 | 4 |
| 1891 | 42,201 | 1900–1 | Nil. |
| 1892 | 23,373 | | |
| 1893 | 34,669 | Total | £312,485 |
| 1894 | 33,796 | | |

*Six months.

It thus appears that the total amount spent by the state of New South Wales for defence purposes from the beginning of the year 1857 to the 30th June, 1901, was £7,070,888, or an average of £158,896 per annum. The items which make up this amount may be recapitulated thus :—

| | £ |
|---|---|
| From Consolidated Revenue | 5,486,588 |
| Loans—Fortifications and Warlike Stores | 1,103,420 |
| Naval Station, Port Jackson | 312,485 |
| Value of Land alienated in virtue of Volunteer Land Orders, computed at £1 per acre | 168,395 |
| Total | £7,070,888 |

The federal control of all military and naval forces within the Commonwealth from the commencement of the present year 1901, will, it is believed, ensure greater efficiency of the forces within each state, and tend to economy in future administration.

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# AGRICULTURAL PRODUCTION.

THE soil of New South Wales is as varied as the climate is diversified. and within the boundaries of the state may be cultivated not only the productions of the temperate regions, but even those of cold and of sub-tropical latitudes. Except in the inaccessible or rugged portions of the mountain chains and the more arid regions of the north-western districts, the soil is almost everywhere susceptible of cultivation. The area absolutely unfit for occupation of any sort has been roughly estimated at less than 5,000,000 acres; and it may be said that the greater part of the land adapted for settlement is in some form or other capable of being cultivated. But success in tillage in the state is altogether independent of the mere fitness of the soil for cultivation. An irregular rainfall and a want of uniformity in the seasons, which are the chief characteristics of the climate of a large part of the interior, have impeded the advance of agriculture on the great western plains. And to these obstacles may be added the cost of transport, which, owing to the great distance that produce has to be carried by land, has told greatly against cultivation for export—a resource which must be the chief hope of the farmers in a country so sparsely populated as New South Wales, and consequently one affording such a small home market.

## CULTIVATION.

The records relating to the farming operations of the early days of the state are necessarily both imperfect and meagre. Among other items of interest, it is recorded that the first settler, a man named James Ruse, entered on his farm of 30 acres at Parramatta on the 25th February, 1789; and that the first free emigrant to undertake the cultivation of the soil of the state was a German, named Philip Schaffer, who came out with the First Fleet as an agricultural superintendent, chiefly with a view to attempt the culture of tobacco on behalf of the Government. The first Government farm was an area of 9 acres at Farm Cove, the designation of which still preserves a memory of this early essay in husbandry, as does that of Garden Island, where one of

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the first attempts in fruit-growing was made. The character of the soil in the vicinity of Farm Cove was, however, by no means favourable to agriculture, and the crop produced was consequently very inadequate. An agricultural settlement was next formed at Rosehill, now known as Parramatta; and in November, 1791, there were here upwards of 700 acres of land in cultivation. During the same year it is recorded that no less than 1,000 bushels of wheat, as well as 500 bushels of maize, were reaped on Norfolk Island. At the close of the year 1792 there were under cultivation in New South Wales 1,186 acres with maize; 208 with wheat, and 24 with barley; 121 acres were laid out as gardens, and 161 acres had been cleared ready for the plough. In 1800 the total quantity of land in cultivation amounted to 7,677 acres. In 1803 no less than 125,476 acres were occupied by the Government, or had been granted to individuals; 16,624 acres had been cleared; 7,118 acres were under wheat, the average yield being 18 bushels to the acre; and 5,279 acres were under barley, maize, and other crops. Owing partly to disastrous floods, and partly to the state of political uncertainty which prevailed during the next few years, the area in cultivation decreased, and when Governor Macquarie came to the state in 1810, only 7,615 acres of land were under crop, but when he left in 1821 this area had increased to 32,267 acres. With the crossing of the Blue Mountains the area of settlement was largely widened, but agriculture was for many years confined to the coastal zone and the table-land. In the year 1825 the area under cultivation was 45,514 acres; in 1835 it had increased to 79,256 acres, in 1840 to 126,116 acres, in 1845 to 163,979 acres, and in 1850 to 198,056 acres. Up to this period the Port Phillip District is, of course, included, and, in 1851, when Victoria was constituted a separate state, the cultivated area of New South Wales stood at 153,117 acres. In 1855 the area was 171,000 acres. The separation of Queensland from New South Wales scarcely affected the area under cultivation, as there was at that time not more than 900 acres under crops in the Moreton Bay District, and the cultivated area of New South Wales had in 1860 risen to 260,798 acres. In 1870 the area was 482,324 acres, 635,641 acres in 1880, and 1,164,475 acres in 1890.

At the present time an area comprising 2,888,305 acres, including grass-lands, is in cultivation; and if the area prepared and cleared for the next season's agricultural operations be included, the total reaches 3,277,919 acres. The area under crops, properly so called, during the year ended March, 1901, was 2,445,564 acres, of which 2,341,905 acres represented alienated lands, and 103,609 Crown lands; the area under artificially-sown grasses was 442,741 acres, making a total area in cultivation of 2,888,305 acres.

The progress of cultivation during the last twenty years is shown in the table given below. It will be seen that, including sown grass-lands, the increase during the last five years amounted to no less than 1,238,843 acres, being an advance of 75 per cent. on the area cultivated in 1896.

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Taking the area under crops only, the total increase during the same period was 1,096,964 acres, equal to 81 per cent.

| Year ended 31st March. | Area under crops. | | Area in cultivation, including sown grass-lands. | |
|---|---|---|---|---|
| | Total. | Average per inhabitant. | Total. | Average per inhabitant. |
| | acres. | acres. | acres. | acres. |
| 1882 | 583,868 | 0·7 | 645,068 | 0·8 |
| 1883 | 660,227 | 0·8 | 733,582 | 0·9 |
| 1884 | 702,131 | 0·8 | 789,682 | 0·9 |
| 1885 | 735,021 | 0·8 | 852,017 | 0·9 |
| 1886 | 737,701 | 0·8 | 868,093 | 0·9 |
| 1887 | 837,468 | 0·9 | 975,471 | 1·0 |
| 1888 | 855,627 | 0·8 | 1,048,305 | 1·0 |
| 1889 | 798,966 | 0·8 | 999,298 | 1·0 |
| 1890 | 947,972 | 0·9 | 1,164,475 | 1·1 |
| 1891 | 852,704 | 0·8 | 1,241,419 | 1·1 |
| 1892 | 646,383 | 0·7 | 1,179,621 | 1·0 |
| 1893 | 1,010,727 | 0·8 | 1,372,007 | 1·1 |
| 1894 | 1,206,992 | 1·0 | 1,509,404 | 1·2 |
| 1895 | 1,325,964 | 1·1 | 1,688,542 | 1·4 |
| 1896 | 1,348,600 | 1·1 | 1,649,462 | 1·3 |
| 1897 | 1,659,717 | 1·3 | 2,043,733 | 1·6 |
| 1898 | 1,821,829 | 1·4 | 2,198,231 | 1·7 |
| 1899 | 2,204,500 | 1·7 | 2,553,329 | 1·9 |
| 1900 | 2,439,639 | 1·8 | 2,818,491 | 2·1 |
| 1901 | 2,445,564 | 1·8 | 2,888,305 | 2·1 |

During the ten years prior to 1893, the progress of cultivation was not very marked; but from the foregoing table it will be seen that great strides have been made every year since 1893, when an area of over 1,000,000 acres under crops was first recorded. The next year saw an addition of more than 200,000 acres, and following this so great was the annual extension that six years afterwards the figures for 1894 were doubled, the area under crops for the year ended March, 1900, being 2,439,639 acres. During the year ended March, 1901, however, the increase on the previous year's acreage amounted to only 5,925 acres.

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Comparisons between the area under crop in 1893 and in 1901 are made in the following table.

| Divisions. | Area under Crops, Year ended 31st March. | | Increase since 1893. | Proportion of present area under cultivation to total for New South Wales. |
|---|---|---|---|---|
| | 1893. | 1901. | | |
| | acres. | acres. | acres. | per cent. |
| Coastal— | | | | |
| North Coast | 114,405 | 135,214 | 20,809 | 5·53 |
| Lower Hunter | 53,246 | 68,754 | 15,508 | 2·81 |
| County of Cumberland | 37,335 | 47,152 | 9,817 | 1·93 |
| South Coast | 44,170 | 55,209 | 11,039 | 2·25 |
| Total | 249,156 | 306,329 | 57,173 | 12·52 |
| Table-land— | | | | |
| Northern | 77,572 | 180,153 | 102,581 | 7·37 |
| Central | 156,540 | 234,140 | 77,600 | 9·57 |
| Southern | 98,552 | 175,733 | 77,181 | 7·19 |
| Total | 332,664 | 590,026 | 257,362 | 24·13 |
| Western Slopes and Riverina— | | | | |
| North-western Slope | 6,258 | 45,660 | 39,402 | 1·87 |
| Central-western Slope | 78,083 | 342,821 | 264,738 | 14·02 |
| South-western Slope | 253,451 | 726,100 | 472,649 | 29·69 |
| Riverina | 82,835 | 399,876 | 317,041 | 16·35 |
| Total | 420,627 | 1,514,457 | 1,093,830 | 61·93 |
| Western Plains | 8,280 | 34,752 | 26,472 | 1·42 |
| Total—N.S.W. | 1,010,727 | 2,445,564 | 1,434,837 | 100·00 |

The greatest aggregate increase has taken place on the South-western Slope, where an additional area of no less than 472,649 acres, representing 32·9 per cent. of the total increase for the whole State, has been placed under cultivation during the eight years since 1893. The next largest additions are 317,041 acres, or 22·1 per cent. of the total increase, in the Riverina; and 264,738 acres, or 18·5 per cent. of the total, on the Central-western Slope; followed by the Northern Table-land, with 102,581 acres, or 7·1 per cent.; the Central Table-land, with 77,600 acres, or 5·4 per cent.; the Southern Table-land, with 77,181 acres, or 5·4 per cent.; the North-western Slope, with 39,402 acres, or 2·7 per cent.; and the Western Plains, with 26,472 acres, or 1·9 per cent. The North Coast shows an advance of 20,809 acres, the Lower Hunter 15,508 acres, the South Coast 11,039 acres, and the county of Cumberland 9,817 acres, these four districts combined being responsible for only 4 per cent. of the total increase.

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On the North-western Slope the increase is mainly in the Gunnedah and Warialda districts, the counties of Pottinger and Nandewar showing an area of 32,018 acres in 1901, as compared with only 4,000 in 1893, while a satisfactory advance is also shown by the county of Burnett. There are extensive areas in this division well adapted for the growth of cereals, and with more adequate facilities for transport a considerable increase in cultivation would undoubtedly result. At present, in addition to low rates realised for produce of recent years, the settlers are handicapped by heavy cartage expenses, consequent on long distance from the railway. In 1893, only 0·62 per cent. of the cultivated area of New South Wales was situated on the North-western Slope; the proportion is now nearly 2 per cent. About five-sixths of the cultivated area of the Riverina is situated in the Southern portion of the division, in the counties between the Murray and Murrumbidgee Rivers; but there has been a fair extension on the Lachlan, between Hillston and Booligal, in county Nicholson, and also north of the Murrumbidgee, in the Narrandera and Whitton Districts, in county Cooper. The Riverina now contributes over 16 per cent. of the total area under crops in New South Wales; in 1893 it represented only 8 per cent.

On the Central-western Slope the increase is general in every county, but more particularly in the counties of Ashburnham, Gordon, Lincoln, Narromine, and Cunningham. Indeed, so great has been the increase in that part of the country of which the towns of Dubbo and Narromine may be taken as the centre that ere long the Central-western Slope will outstrip the Riverina in agricultural importance, and will stand next to the South-western Slope, while if the rate of development during the last five years continues the latter district must eventually give place to it. The superiority of the Central-western District for wheat-growing is evidenced by the fact that the mean annual average yield per acre during the last nine years is 2·9 bushels higher than the average for the South-western Slope, and 3·2 bushels higher than that of the Riverina. Taking the last five years the Central-western wheat average is even more favourable, being 3·4 bushels higher than the South-western and 4·6 higher than the Riverina average; while during the three years ended March, 1900, when, on account of the continued droughts, the mean average for the whole State was only 8·9 bushels per acre, and the averages of the South-western Slope and the Riverina 7·8 and 4·7 respectively, that of the Central-western Slope was no less than 12·6 bushels per acre. Of the total area under crops in New South Wales the Central-western Slope now contributes 14 per cent., as compared with 7·7 per cent. in 1893.

On the South-western Slope, 45 per cent. of the cultivated area is in the three counties of Clarendon, Bourke, and Harden, north of the Murrumbidgee, and intersected by the railway from Murrumburrah to Wagga and its branches. The country south of the Murrumbidgee, embracing the three counties of Mitchell, Goulburn, and Hume, and

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served by the railway from Wagga to Albury and Corowa, represents 33 per cent., while the remaining 22 per cent. is the area cultivated in the counties of Gipps and Forbes on the south of the Lachlan River, together with the area in the adjoining county of Bland. Of the total area under crops in New South Wales the proportion represented by the South-western Slope is now nearly 30 per cent.; in 1893 it was only 25 per cent.

Of the total cultivated area in the Northern Table-land 53 per cent. is comprised within the counties of Darling, Inglis, Parry, and Buckland in the Tamworth District. The Armidale district, taking in the counties of Sandon, Hardinge, Vernon, and Clarke, represents 18 per cent., while the remaining 29 per cent. is found in the Glen Innes-Inverell district.

On the Southern Table-land, 62 per cent. of the cultivated area is in the district stretching from Goulburn in the east to Burrowa, Koorawatha, and Grenfell in the west, and taking in the three counties of Argyle, King, and Monteagle. The Gundagai and Tumut portion, embracing the three counties of Wynyard, Buccleuch, and Selwyn, represents 22 per cent., and the remaining 16 per cent. is in the Queanbeyan, Cooma, and Bombala Districts, comprised within the counties extending southward from Murray to Wellesley.

On the Central Table-land, 52 per cent. of the cultivated area is in the Bathurst, Orange, and Cowra Districts, in the two counties of Roxburgh and Bathurst; 29 per cent. is in the Mudgee District, embracing the three counties of Phillip, Bligh, and Wellington, 12 per cent. in the southern counties of Cook, Westmoreland, and Georgiana, and the remaining 7 per cent. in the two northern counties of Brisbane and Hunter.

In 1893 the three table-lands contributed nearly 33 per cent. of the total area under crops in New South Wales; at present, owing to the greater advance on the Western Slopes and Riverina, the proportion is only 24 per cent. The area under crops in the coastal districts now represents only 12½ per cent. of the whole; in 1893 it was 24½ per cent.

In marked contrast with the large increase of the previous seven years the total area of new cultivation for the year ended March, 1901, was very slight; indeed, the preceding table shows a considerable falling off in the older settled districts, which was only counterbalanced by extended operations further inland. The lapse was general throughout all the counties of the tableland and coast, the area under crops for these divisions being 81,770 acres less than in the previous year, or a decrease of 12 per cent. on the tableland and 3 per cent. on the coast. This decrease was mainly in the wheaten-hay crops, and probably in a measure resulted from a fully-stocked market. The area of wheat for grain advanced by more than 100,000 acres.

The great extension of cultivation during the last seven or eight years has been largely contributed to by the taking up of wheat-growing on large estates formerly devoted almost exclusively to grazing, and also

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to the adoption of the system of cultivating on shares. No account was taken of this prior to the year ended March, 1899, but the returns for that year show that an area of 354,676 acres was thus dealt with. In March, 1900, the area so returned was 371,507 acres, but at present there seems to be no disposition to pursue the system further, the area farmed on shares for the year ended March, 1901, being somewhat less—360,902 acres.

Only about 1·2 per cent. of the total area of New South Wales is actually devoted to the growth of agricultural produce, and if the small extent of land upon which permanent artificial grasses have been sown for dairy-farming purposes be added to the area under crops, the proportion reaches only 1·5 per cent. of the total area of the State, and represents about 2·1 acres per head of its population. The proportion of the cultivated area on alienated holdings is only 5·1 per cent. of the total area of alienated rural lands.

Agricultural settlements, pure and simple, are confined to very limited areas in the alluvial lands of the lower valleys of the coastal rivers, and to parts of the southern and central divisions of the table-land; but the growth of crops is now largely carried on in conjunction with grazing—a practice which is rapidly extending, even amongst the large landowners. Tenant occupancy, so general in the United Kingdom, is but little known in New South Wales; for of the total area under crops, 1,937,171 acres, or 79·2 per cent., were cultivated by the owners; while 508,393 acres, or 20·8 per cent., were cultivated by tenant occupiers, including Crown land lessees. If, however, the area under permanent grasses were taken into consideration, the proportion of cultivated leased lands would be somewhat higher, as a number of the dairy farms in the southern coast district, where grass is largely sown, are held on lease.

New South Wales is essentially a pastoral country, and the cultivation of the soil is secondary to stock-breeding. This circumstance is by no means due to lack of good land, and it cannot be ascribed to the defects of the climate; for the capabilities of the land for the production of all kinds of agricultural produce are unsurpassed, while the climate is certainly superior to that of other parts of the Australian continent where the cultivation of cereals has been carried on for years past. Taken as a whole, the yield of crops in New South Wales is larger than that obtained in any other continental State, but, at the same time, communication with the metropolitan market is much more difficult. Agriculture cannot be developed unless access to the markets be rendered both easy and cheap, and to secure this desirable end in a country so vast, and with so small a population, is a matter not easily accomplished. Up to the present, stock-rearing has maintained the position of an occupation which, while entailing considerably less physical labour and personal inconvenience, has yielded results more remunerative than those of agriculture; but as population increases, and there remains no more land to be taken up for grazing purposes, agricultural pursuits must be

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resorted to under the pressure of an ever-increasing demand. As it is, the land devoted to agriculture affords permanent employment to a large proportion of the working population of the province, and the industry is rapidly becoming an important one, the last eight years having witnessed an extension equal to 142 per cent. in the area under crops.

The number of persons reported as employed in agricultural and dairy-farming pursuits during the year ended March, 1901, was 94,307, of whom 16,423 were females. Of the total number, 62,869 males and 4,267 females were engaged in purely farming operations, whilst the dairy-farming industry gave employment to 15,015 males and 12,156 females. If to these be added 26,619 persons engaged in pastoral pursuits, it is estimated that rural occupations absorb the energies of 120,926 persons. As the geographical distribution of employment in these pursuits presents interesting features, the numbers of persons employed in the great divisions of the state, according to the classification adopted, are given below. It must be understood that the number given as engaged in dairy-farming does not include 1,106 hands employed in the dairy factories, as shown in Table No. 3 of Part VI, Statistical Register for 1900:—

| Division. | Persons employed in Agricultural Pursuits principally. | | | | | Persons employed in Pastoral Pursuits. | Persons employed in Rural Occupations. |
|---|---|---|---|---|---|---|---|
| | Agriculture. | | Dairy Farming. | | Total. | | |
| | Males. | Females | Males. | Females. | | | |
| **Coastal Division—** | | | | | | | |
| North Coast | 9,097 | 236 | 4,474 | 2,507 | 16,314 | 779 | 17,093 |
| Lower Hunter | 6,376 | 492 | 2,381 | 2,076 | 11,325 | 1,023 | 12,348 |
| County of Cumberland | 6,716 | 665 | 638 | 257 | 8,276 | 163 | 8,439 |
| South Coast | 4,343 | 61 | 5,247 | 3,089 | 12,740 | 613 | 13,353 |
| Total | 26,532 | 1,454 | 12,740 | 7,929 | 48,655 | 2,578 | 51,233 |
| **Table-land Division—** | | | | | | | |
| Northern Table-land | 5,493 | 170 | 205 | 704 | 6,572 | 3,264 | 9,836 |
| Central Table-land | 9,011 | 663 | 696 | 1,478 | 11,848 | 2,557 | 14,405 |
| Southern Table-land | 5,867 | 552 | 1,072 | 1,244 | 8,735 | 3,702 | 12,437 |
| Total | 20,371 | 1,385 | 1,973 | 3,426 | 27,155 | 9,523 | 36,678 |
| **Western Slopes and Riverina Division—** | | | | | | | |
| North-western Slope | 1,243 | 23 | 17 | 23 | 1,306 | 3,334 | 4,640 |
| Central-western Slope | 4,750 | 635 | 47 | 94 | 5,526 | 1,730 | 7,256 |
| South-western Slope | 6,500 | 322 | 122 | 428 | 7,372 | 2,472 | 9,844 |
| Riverina | 2,927 | 391 | 55 | 227 | 3,600 | 2,370 | 5,970 |
| Total | 15,420 | 1,371 | 241 | 772 | 17,804 | 9,906 | 27,710 |
| **Western Plains** | 546 | 57 | 61 | 29 | 693 | 4,612 | 5,305 |
| Grand Total | 62,869 | 4,267 | 15,015 | 12,156 | 94,307 | 26,619 | 120,926 |

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In order to appreciate the proper bearing of the figures in the table, it is advisable to consider them in conjunction with the figures showing the area brought into cultivation within each division, and these will be found appended :—

| Division. | Total Area occupied. | Area under Crops. | Area Cleared and Prepared for Cultivation. | Area under Permanent Artificially-sown Grasses. | Area Ring-barked and Partially Cleared. |
|---|---|---|---|---|---|
| Coastal Division— | acres. | acres. | acres. | acres. | acres. |
| North Coast... ..... | 4,105,777 | 135,214 | 8,268 | 147,054 | 597,392 |
| Lower Hunter..... | 2,455,966 | 68,754 | 6,595 | 6,577 | 1,115,225 |
| County of Cumberland ..... | 504,612 | 47,152 | 1,302 | 10,306 | 79,268 |
| South Coast ..... ... | 2,328,732 | 55,209 | 5,458 | 173,488 | 843,297 |
| Total ..... | 9,395,087 | 306,329 | 21,623 | 337,425 | 2,635,182 |
| Table-land Division— | | | | | |
| Northern Table-land. | 13,276,634 | 180,153 | 40,727 | 9,421 | 4,324,310 |
| Central Table-land ... | 7,195,356 | 234,140 | 48,389 | 15,023 | 3,127,969 |
| Southern Table-land. | 9,547,055 | 175,733 | 63,926 | 12,990 | 3,860,358 |
| Total ..... | 30,019,045 | 590,026 | 153,042 | 37,434 | 11,312,637 |
| Western Slopes and Riverina Division— | | | | | |
| North-western Slope. | 13,392,815 | 45,660 | 7,605 | 106 | 3,252,939 |
| Central-western Slope | 10,522,357 | 342,821 | 45,057 | 8,412 | 5,836,563 |
| South-western Slope . | 9,321,588 | 726,100 | 94,849 | 41,915 | 5,643,732 |
| Riverina ... ..... | 14,223,173 | 399,876 | 63,771 | 15,827 | 3,540,223 |
| Total ..... | 47,459,933 | 1,514,457 | 211,282 | 66,260 | 18,273,457 |
| Western Plains ..... | 78,099,444 | 34,752 | 3,667 | 1,622 | 6,578,418 |
| Grand Total..... | 164,973,509 | 2,445,564 | 389,614 | 442,741 | 38,799,694 |

Taking the first of these tables in conjunction with the second, it will be found that the average area to each person engaged in rural pursuits is 1,364 acres, ranging from 60 acres in the metropolitan county to 14,722 acres in the western plains. The average for each district is given below, and though a close distinction cannot be drawn between the actual area affording employment to a man in each of the three main divisions of farming, it will be apparent enough that the districts devoted to market-gardening, fruit-growing, dairying, cereal-farming, and grazing offer most employment per unit of area in the order given. Next to the metropolitan district, which contains numerous

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orchards and market-gardens, the South Coast district surpasses all others with one person to every 174 acres, followed by the Hunter River district with one to every 198 acres, and the North Coast with one to every 240 acres. Only three other districts, the Central table-land, the Southern table-land, and the South-western slope, fall below the proportion of one person to 1,000 acres :—

| Division. | Area occupied. | Persons employed. | Area to each person employed. |
|---|---|---|---|
| **Coastal Division—** | acres. | No. | acres. |
| North Coast | 4,105,777 | 17,093 | 240 |
| Lower Hunter District | 2,455,966 | 12,348 | 198 |
| County of Cumberland | 504,612 | 8,439 | 60 |
| South Coast | 2,328,732 | 13,353 | 174 |
| Total | 9,395,087 | 51,233 | 183 |
| **Table-land Division—** | | | |
| Northern Table-land | 13,276,634 | 9,836 | 1,350 |
| Central Table-land | 7,195,356 | 14,405 | 499 |
| Southern Table-land | 9,547,055 | 12,437 | 768 |
| Total | 30,019,045 | 36,678 | 818 |
| **Western Slopes and Riverina Division—** | | | |
| North-western Slope | 13,392,815 | 4,640 | 2,888 |
| Central-western Slope | 10,522,357 | 7,256 | 1,450 |
| South-western Slope | 9,321,588 | 9,844 | 947 |
| Riverina | 14,223,173 | 5,970 | 2,382 |
| Total | 47,459,933 | 27,710 | 1,713 |
| **The Western Plains** | 78,099,444 | 5,305 | 14,722 |
| Grand Total | 164,973,509 | 120,926 | 1,364 |



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The total area of New South Wales is 198,848,000 acres. Exclusive of all rivers, lakes, and streams, the area is estimated at 195,882,150 acres, of which 46,043,244 acres of alienated land and 118,930,265 acres of Crown land, making a total of 164,973,509 acres, were devoted to rural industries on the 31st March, 1901. Of this area, 21,445,050 acres of alienated land and 17,354,644 acres of Crown land were ring-barked and partly cleared; 339,941 acres of alienated land and 42,800 acres of Crown land were under permanent artificially-sown grasses; 389,614 acres of alienated land were cleared and prepared for cultivation; and 2,341,955 acres of alienated land and 103,609 acres of Crown land, making a total of 2,445,564 acres, were under crops. Cultivation is not confined wholly to certain districts, but is carried on in all parts of the State. The best lands for producing cereals are, and will probably remain for many years, in the hands of the pastoralists; whilst farmers have not always settled on the kind of country best suited for the cultivation of their crops. It is, therefore, difficult to divide the country into agricultural lands, as distinguished from those purely pastoral in character.

The area devoted to each of the principal crops during the agricultural year ended 31st March, 1901, with the quantity or value of the produce harvested, will be found below:—

| Description of Crop. | Area. | Production. | Description of Crop. | Area. | Production. |
|---|---|---|---|---|---|
| | acres. | | | acres. | |
| Wheat— | | | Orangeries— | | |
| Grain | 1,530,609 | 16,173,771 bus. | Productive | 11,018 | 540,523 cases |
| Hay | 332,143 | 347,743 tons | Non-bearing | 3,952 | ..... |
| Maize— | | | Grape-vines— | | |
| Grain | 206,051 | 6,292,745 bush. | For wine-making | 4,534 | 891,190 galls. |
| Green Food | 13,598 | ..... | For table use | 2,689 | 4,214 tons |
| Oats— | | | Non-bearing | 1,218 | ..... |
| Grain | 29,383 | 593,548 bush. | Market-gardens | 7,764 | £189,448 |
| Hay | 96,105 | 92,749 tons | Pumpkins and Melons | 4,551 | 15,962 tons |
| Green Fodder | 11,248 | ..... | Millet— | | |
| Lucerne and Sown Grasses— | | | Grain and Fibre | 3,203 | 20,385 bus. grain<br>25,505 cwt. fibre |
| Hay | 37,084 | 84,505 tons | Green Fodder | 2,072 | ..... |
| Green Fodder | 31,805 | ..... | Rape for Green Food | 2,195 | ..... |
| Sugar-cane— | | | Rye— | | |
| Cut this year | 10,472 | 199,118 tons | Grain | 1,996 | 25,052 bush. |
| Not cut | 11,642 | ..... | Green Fodder | 1,703 | ..... |
| Potatoes | 29,408 | 63,253 tons | Turnips | 350 | 1,739 tons |
| *Fruit Orchards— | | | Tobacco | 199 | 1,905 cwt. |
| Productive | 25,766 | £270,081 | Peas and Beans | 676 | 22,513 bush. |
| Non-bearing | 5,503 | ..... | Mangold-wurzels | 73 | 517 tons |
| Barley— | | | Onions | 307 | 1,224 tons |
| Grain | 9,435 | 114,228 bush. | All other Crops | 1,593 | £27,950 |
| Hay | 904 | 1,263 tons | | | |
| Green Fodder | 3,806 | ..... | | | |
| Sorghum for Green Food | 11,717 | ..... | Total | 2,446,767† | ..... |

* Excluding vines and oranges. † Including 1,203 acres double-cropped.

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The values of agricultural produce harvested during each of the last five years are given in the following statement :—

| Crop. | 1897. | 1898. | 1899. | 1900. | 1901. |
|---|---|---|---|---|---|
| | £ | £ | £ | £ | £ |
| Wheat | 1,881,377 | 2,200,023 | 1,276,855 | 1,784,397 | 2,051,297 |
| Maize | 575,422 | 923,045 | 934,996 | 784,353 | 839,032 |
| Barley | 15,171 | 14,927 | 8,012 | 16,008 | 12,375 |
| Oats | 83,464 | 61,194 | 26,063 | 75,872 | 59,355 |
| Other Grains | 4,444 | 5,882 | 3,534 | 8,447 | 5,680 |
| *Millet Fibre | ..... | ..... | ..... | ..... | 16,578 |
| Hay | 1,339,608 | 1,651,270 | 1,160,067 | 1,651,303 | 1,515,574 |
| Straw | 72,704 | 105,084 | 97,185 | 106,107 | 51,888 |
| Green Food | 251,652 | 200,853 | 240,921 | 226,554 | 234,252 |
| Potatoes | 294,749 | 302,500 | 269,265 | 219,609 | 271,987 |
| Onions | 3,745 | 5,760 | 6,624 | 5,850 | 5,876 |
| Turnips and Mangold-wurzels | 2,986 | 11,805 | 6,526 | 6,880 | 7,106 |
| Sugar-cane | 216,186 | 171,532 | 198,829 | 116,515 | 143,861 |
| Tobacco | 41,202 | 29,577 | 16,519 | 8,301 | 2,667 |
| Grapes | 40,390 | 59,220 | 59,696 | 51,128 | 58,996 |
| Oranges and Lemons | 97,432 | 65,938 | 97,990 | 80,496 | 81,078 |
| Orchards | 159,715 | 155,534 | 158,678 | 159,950 | 270,081 |
| Market-gardens | 168,353 | 151,919 | 175,321 | 185,472 | 189,448 |
| Peas and Beans | 1,650 | 2,195 | 2,658 | 2,725 | 3,658 |
| Pumpkins and Melons | 44,850 | 46,678 | 44,860 | 43,170 | 47,886 |
| Wine | 59,570 | 64,838 | 63,392 | 55,475 | 55,698 |
| Brandy | 1,425 | 2,158 | 777 | 1,925 | 3,351 |
| Other Crops | 17,519 | 17,745 | 25,928 | 18,900 | 27,950 |
| Total | 5,373,614 | 6,249,677 | 4,374,696 | 5,609,437 | 5,955,674 |

* Not ascertained prior to 1901.

The area under crops, the value of the agricultural produce, and the average value per acre for the year 1871, and for each year since 1881, are given below. It will be seen that the total value of the produce harvested in 1898 was the highest on record, and that the average value per acre under crop represented the best results obtained since 1893. But for the year ended March, 1899, with a largely increased area, the total value of produce was about £1,375,000 less than that of the preceding year, and the average value per acre, the lowest recorded. The returns for wheat and hay are sufficient to account for this falling off. The yield of wheat per acre was 3·6 bushels less than that of 1898, and the average price of wheat in the market during the first five months of 1899 was only 2s. 9d. per bushel, as compared with 4s. 2d. in 1898. The price of wheat was slightly lower for the two years ended March, 1900 and 1901, but the production was very much

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larger, and the total value was only exceeded by that for 1898, just referred to :—

| Year ended 31st March. | Area under Crops. | Total Value of Produce. | Average Value per acre. |
|---|---|---|---|
| | acres. | £ | £ s. d. |
| 1871 | 397,389 | 2,220,000 | 5 11 9 |
| 1881 | 629,180 | 3,849,423 | 6 2 4 |
| 1882 | 583,868 | 4,215,268 | 7 4 5 |
| 1883 | 660,227 | 3,332,385 | 5 0 11 |
| 1884 | 702,131 | 3,839,421 | 5 9 4 |
| 1885 | 735,021 | 2,853,812 | 3 17 8 |
| 1886 | 737,701 | 3,414,776 | 4 12 7 |
| 1887 | 837,468 | 3,970,938 | 4 14 10 |
| 1888 | 855,627 | 4,196,205 | 4 18 1 |
| 1889 | 798,966 | 3,316,669 | 4 3 0 |
| 1890 | 947,072 | 4,487,301 | 4 14 9 |
| 1891 | 852,704 | 4,181,940 | 4 18 1 |
| 1892 | 846,383 | 3,614,594 | 4 5 5 |
| 1893 | 1,010,727 | 4,004,402 | 3 19 3 |
| 1894 | 1,206,992 | 3,903,749 | 3 4 8 |
| 1895 | 1,325,964 | 3,438,512 | 2 11 10 |
| 1896 | 1,348,600 | 4,100,709 | 3 0 10 |
| 1897 | 1,659,717 | 5,373,614 | 3 4 9 |
| 1898 | 1,821,829 | 6,249,677 | 3 8 7 |
| 1899 | 2,204,500 | 4,874,696 | 2 4 3 |
| 1900 | 2,439,639 | 5,609,437 | 2 6 0 |
| 1901 | 2,445,564 | 5,955,674 | 2 8 8 |

## Wheat.

In the early days of settlement the Hawkesbury River Valley, and the country adjacent to the towns of Parramatta, Liverpool, Penrith, Camden, and Maitland, were the principal centres of wheat cultivation. Unskilful farming, and the consequent exhaustion of the soil, with the attendant evils of rust, smut, and other diseases, caused these districts to be abandoned little by little as wheat-country, and on the discovery of the Bathurst Plains their importance at once ceased. The districts

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of Bathurst, Goulburn, Gundagai, Tumut, Young, Monaro, and New England were each in turn occupied by agriculturists, and the suitability of their soil and climate, as well as that of the whole of the mountain plateau, for the growth of this cereal became definitely established. Subsequently the cultivation was extended to the South-western slope and the Riverina, and more recently to the Central-western slope. The following table shows the distribution of the area cut for grain during the agricultural year ended March, 1901, with the production and average yield of each division of the state.

| Division. | Area of Wheat cut for Grain. | Yield. | |
|---|---|---|---|
| | | Total. | Per acre. |
| | acres. | bushels. | bushels. |
| **Coastal Division—** | | | |
| North Coast | 60 | 947 | 15·8 |
| Lower Hunter | 5,657 | 85,410 | 15·1 |
| County of Cumberland | 163 | 1,401 | 8·6 |
| South Coast | 1,825 | 26,383 | 14·4 |
| Total | 7,705 | 114,141 | 14·8 |
| **The Table-land—** | | | |
| Northern Table-land | 98,412 | 1,490,922 | 15·1 |
| Central Table-land | 102,555 | 1,207,919 | 11·8 |
| Southern Table-land | 102,373 | 1,032,285 | 10·1 |
| Total | 303,340 | 3,731,126 | 12·3 |
| **Western Slopes and Riverina Division—** | | | |
| North-western Slope | 28,138 | 406,831 | 14·4 |
| Central-western Slope | 251,280 | 2,793,121 | 11·1 |
| South-western Slope | 603,001 | 5,456,226 | 9·0 |
| Riverina | 324,216 | 3,630,088 | 11·2 |
| Total | 1,206,635 | 12,286,266 | 10·2 |
| **Western Plains** | 12,929 | 42,238 | 3·3 |
| Grand Total | 1,530,609 | 16,173,771 | 10·6 |

During the last eight or nine years there have been extensive developments in wheat-growing in New South Wales, and the two following

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tables afford interesting comparisons between the area and production of 1893 and 1901 :—

| Divisions. | Area under Wheat for Grain, Year ended March 31st. | | Increase. | Proportion in each division to total area under Wheat for Grain in 1901. |
|---|---|---|---|---|
| | 1893. | 1901. | | |
| Coastal— | acres. | acres. | acres. | per. cent. |
| North Coast | 120 | 60 | — 60* | 0·01 |
| Lower Hunter | 2,924 | 5,657 | 2,733 | 0·37 |
| County of Cumberland | 29 | 163 | 134 | 0·01 |
| South Coast | 2,171 | 1,825 | — 346* | 0·11 |
| Total | 5,244 | 7,705 | 2,461 | 0·50 |
| Table-land— | | | | |
| Northern | 36,719 | 98,412 | 61,693 | 6·43 |
| Central | 65,524 | 102,555 | 37,031 | 6·70 |
| Southern | 46,012 | 102,373 | 56,361 | 6·69 |
| Total | 148,255 | 303,340 | 155,085 | 19·82 |
| Western Slopes and Riverina— | | | | |
| North-western slope | 948 | 28,138 | 27,190 | 1·84 |
| Central-western slope | 46,792 | 251,280 | 204,488 | 16·42 |
| South-western slope | 194,251 | 603,001 | 408,750 | 39·40 |
| Riverina | 56,800 | 324,216 | 267,416 | 21·18 |
| Total | 298,791 | 1,206,635 | 907,844 | 78·84 |
| Western Plains | 631 | 12,929 | 12,298 | 0·84 |
| Grand Total | 452,921 | 1,530,609 | 1,077,688 | 100·00 |

* Decrease.

The area of wheat for grain in New South Wales in 1893 was 452,921 acres, and the foregoing table shows that in 1901 no less than 1,077,688 acres, or 238 per cent. had been added, making a total of 1,530,609 acres, or considerably more than three times the area of 1893. Of this increase the South-western slope contributed 38 per cent., the Riverina 25 per cent., the Central-western slope 19 per cent., the three table-lands about 14½ per cent., the North-western slope 2½ per cent., and the Western Plains and coastal regions 1½ per cent.

The greatest proportional increases are those of the North-western slope and the Western Plains, the area of wheat for grain in the former being now nearly thirty times and in the latter more than twenty times what it was in 1893. These two areas together, however, form only 2·68 per cent. of the total for New South Wales ; in 1893 they represented only 0·35 per cent. The Riverina wheat area is now nearly six times what it was in 1893, and forms 21·18 per cent. of the total of the whole state, as compared with 12·54 per cent. in 1893. The area in the Central-western slope has increased more than five times, and now represents 16·42 per cent. of the total area of wheat for grain, as

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against 10·33 per cent. in 1893. The South-western slope has now a wheat area three times that of the year 1893, but represents only 39·4 per cent. of the whole; in 1893 it contributed 42.89 per cent. The wheat area of the three table-lands has more than doubled during the last eight years, but whereas this district contributed nearly 33 per cent. of the total in 1893, the proportion now is less than 20 per cent. The wheat area on the coast is very small, but it is extending in the Lower Hunter district.

The following table gives particulars respecting the wheat yield in the various divisions :—

| Divisions. | Total yield of Wheat, years ended March 31st. | | Increase. | Proportion of Yield in each division to total yield in 1901. |
|---|---|---|---|---|
| | 1893. | 1901. | | |
| Coastal :— | bushels. | bushels. | bushels. | per cent. |
| North Coast | 1,487 | 947 | — 540* | 0·01 |
| Lower Hunter | 31,174 | 85,410 | 54,236 | 0·52 |
| County Cumberland | 550 | 1,401 | 851 | 0·01 |
| South Coast | 37,192 | 26,383 | — 10,809* | 0·16 |
| Total | 70,403 | 114,141 | 43,738 | 0·70 |
| Table-land :— | | | | |
| Northern | 579,066 | 1,490,922 | 911,856 | 9·22 |
| Central | 973,620 | 1,207,919 | 234,299 | 7·47 |
| Southern | 692,583 | 1,032,285 | 339,702 | 6·38 |
| Total | 2,245,269 | 3,731,126 | 1,485,857 | 23·07 |
| Western Slopes and Riverina :— | | | | |
| North-western slope | 16,142 | 406,831 | 390,689 | 2·52 |
| Central-western slope | 734,431 | 2,793,121 | 2,058,690 | 17·27 |
| South-western slope | 2,806,428 | 5,456,226 | 2,649,798 | 33·74 |
| Riverina | 937,304 | 3,630,088 | 2,692,784 | 22·44 |
| Total | 4,494,305 | 12,286,266 | 7,791,961 | 75·97 |
| Western Plains | 7,480 | 42,238 | 34,758 | 0·26 |
| Grand Total | 6,817,457 | 16,173,771 | 9,356,314 | 100·00 |

* Decrease.

The total yield of wheat in New South Wales for the year ended March, 1901, was 16,173,771 bushels, being 9,356,314 bushels, or 137 per cent. in excess of the yield for 1893. Of this increase the Riverina contributed 29 per cent., the South-western slope 28 per cent., the Central-western slope 22 per cent., the table-lands 16 per cent., the North-western slope 4 per cent., and the Western Plains and Coastal districts about 1 per cent.

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The greatest proportional increase is in the North-western slope, the latest yield being more than twenty-five times what it was in 1893, though the district contributes only 2½ per cent. of the total quantity of wheat raised in the state. The yield last harvest for the Western Plains is more than five times that of the year 1893, but it is only a very trifling proportion of the total. The yields in the Riverina and the Central-western slope have each increased nearly four-fold since 1893, but whereas the Riverina in 1893 contributed nearly 29 per cent. of the total quantity of wheat raised, it now represents only 22 per cent. while the Central-western slope contributes 17 per cent. of the total crop as against 11 per cent. in 1893. The yield of the South-western slope has very nearly doubled, but now forms only 34 per cent. of the total as compared with 41 per cent. in 1893. In 1901 the yield on the Table-lands was 66 per cent. greater than in 1893, and represents 23 per cent. of the total crop as against 33 per cent. in 1893. The latest yield of the coastal districts was 62 per cent. higher than in 1893, but represents a smaller proportion of the total crop than was the case in that year.

The following table shows the average yield of wheat in the various districts during each of the last five years, together with the mean annual average from 1897 to 1901.

| Districts. | Year ended March 31st | | | | | Mean Annual Average 1897–1901. |
|---|---|---|---|---|---|---|
| | 1897. | 1898. | 1899. | 1900. | 1901. | |
| Coastal— | bushels. | bushels. | bushels. | bushels. | bushels. | bushels. |
| North Coast ..... | 18·8 | 12·3 | 11·0 | 14·6 | 15·8 | 13·8 |
| Lower Hunter ..... | 14·1 | 19·7 | 11·9 | 13·3 | 15·1 | 14·6 |
| County of Cumberland | 19·6 | 15·7 | 14·8 | 13·8 | 8·6 | 14·2 |
| South Coast..... | 14·7 | 16·9 | 14·0 | 18·1 | 14·4 | 15·8 |
| Total..... | 14·7 | 18·8 | 12·2 | 14·3 | 14·8 | 14·8 |
| Table-land— | | | | | | |
| Northern ..... | 14·5 | 18·8 | 9·8 | 15·9 | 15·1 | 14·7 |
| Central ..... | 12·6 | 12·3 | 11·3 | 12·3 | 11·8 | 12·1 |
| Southern ..... | 10·6 | 10·8 | 8·0 | 12·7 | 10·1 | 10·4 |
| Total..... | 12·5 | 14·0 | 9·8 | 13·8 | 12·3 | 12·4 |
| Western Slopes and Riverina— | | | | | | |
| North-western Slope... | 9·4 | 19·7 | 6·9 | 14·6 | 14·4 | 13·1 |
| Central-western Slope | 8·7 | 15·4 | 12·0 | 11·6 | 11·1 | 11·7 |
| South-western Slope ... | 8·9 | 8·7 | 6·3 | 8·6 | 9·0 | 11·7 |
| Riverina ..... | 10·5 | 7·8 | 2·2 | 4·5 | 11·2 | 7·1 |
| Total..... | 9·4 | 9·5 | 6·1 | 8·2 | 10·2 | 8·6 |
| Western Plains ..... | 6·3 | 10·6 | 2·5 | 4·4 | 3·3 | 4·5 |
| Grand Total ..... | 10·2 | 10·6 | 7·0 | 9·5 | 10·6 | 9·5 |

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The progress of wheat-growing up till the last ten years was slow and irregular. For some years prior to 1867 the area under crop remained almost stationary at a little more than 125,000 acres, but in 1867 the acreage had increased to 175,000. Eleven years later the area reaped for grain was practically the same, although during the intervening period it had fluctuated to the extent of 50,000 acres. Then more land was laid under the cereal, and in 1879 the area increased to 233,252 acres. In 1891, twelve years later, the acreage stood at 333,233 acres, although during the interval it had reached as high as 419,758 acres. From 1893 onwards progress was more regular. A great impetus was given to the industry in 1897, when the area increased to 866,112 acres, while in 1899 it had advanced to 1,319,503 acres, and in 1901 to 1,530,609 acres. The following statement shows the area under wheat for grain in each year since 1872, together with the total production and average yield per acre:—

| Year ended 31st March. | Area under Wheat for Grain. | Yield. | | Year ended 31st March. | Area under Wheat for Grain. | Yield. | |
|---|---|---|---|---|---|---|---|
| | | Total. | Average per acre. | | | Total. | Average per acre. |
| | acres. | bushels. | bushels. | | acres. | bushels. | bushels. |
| 1872 | 154,030 | 2,229,642 | 14·48 | 1890 | 419,758 | 6,570,335 | 15·65 |
| 1873 | 177,551 | 2,898,463 | 16·32 | 1891 | 333,233 | 3,649,216 | 10·95 |
| 1874 | 169,330 | 2,273,620 | 13·43 | 1892 | 356,666 | 3,963,668 | 11·11 |
| 1875 | 166,911 | 2,148,394 | 12·87 | 1893 | 452,921 | 6,817,457 | 15·05 |
| 1876 | 133,609 | 1,958,640 | 14·66 | 1894 | 593,810 | 6,502,715 | 10·95 |
| 1877 | 145,608 | 2,391,979 | 16·43 | 1895 | 647,483 | 7,041,378 | 10·88 |
| 1878 | 176,686 | 2,455,507 | 13·84 | 1896 | 596,684 | 5,195,312 | 8·71 |
| 1879 | 233,252 | 3,439,326 | 14·74 | 1897 | 866,112 | 8,853,445 | 10·22 |
| 1880 | 233,368 | 3,613,256 | 15·48 | 1898 | 993,350 | 10,560,111 | 10·60 |
| 1881 | 253,137 | 3,717,355 | 14·69 | 1899 | 1,319,503 | 9,276,216 | 7·03 |
| 1882 | 221,887 | 3,405,966 | 15·35 | 1900 | 1,426,166 | 13,604,166 | 9·54 |
| 1883 | 247,361 | 4,042,395 | 16·35 | 1901 | 1,530,609 | 16,173,771 | 10·56 |
| 1884 | 289,757 | 4,345,437 | 15·00 | | | | |
| 1885 | 275,249 | 4,271,394 | 15·52 | | | | |
| 1886 | 264,867 | 2,733,133 | 10·45 | Average for 30 Years ..... | | | 11·39 |
| 1887 | 337,730 | 5,868,844 | 17·37 | ,, 10 Years ended 1881 | | | 14·71 |
| 1888 | 389,390 | 4,695,849 | 12·06 | ,, ,, ,, 1891 | | | 13·30 |
| 1889 | 304,803 | 1,450,503 | 4·75 | ,, ,, ,, 1901 | | | 10·02 |

The great advance which New South Wales is now making in wheat cultivation is in every way gratifying, and it is unfortunate that the enterprise of the farmers should have been robbed of much of its reward by the adverse seasons which have been experienced during the last six years. For a long time the province lagged behind its neighbours in this important industry; but, despite the vicissitudes of the climate, it will be seen from the above table that lack of capacity to produce a payable average has not been the cause of this tardiness in development. Taking the whole period of thirty years, the mean annual average yield

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has been 11·39 bushels to the acre. The highest average recorded was 17·37 bushels in 1887, and the lowest 4·75 bushels in 1889. During the whole period there were only four seasons when the yield fell below 10 bushels per acre, 1889 showing the lowest average with 4·75 bushels, followed by 1899 with 7·03, 1896 with 8·71, and 1900 with 9·54 bushels to the acre. For 1901 the average was 10·56 bushels. For the first decennial period ending with 1881 the average return was 14·71 bushels per acre, for the ten years ending 1891 it was 13·30 bushels, and for the third ten year period ending in 1901 it was 10·02 bushels.

Dividing the period beginning with 1872 into quinquennial periods, the average yields per acre were as follow :—

| Quinquennial period. | Average per acre. |
|---|---|
| 1872–76 | 14·36 bushels. |
| 1877–81 | 14·98 ,, |
| 1882–86 | 15·07 ,, |
| 1887–91 | 11·31 ,, |
| 1892–96 | 11·15 ,, |
| 1897–1901 | 9·53 ,, |

In spite of the lower averages for the last sixteen years, it may be said that from equal qualities of soil a better yield is now obtained than that realised twenty years ago—a result due largely to improved farming, and to the fact that rust, smut, and other forms of disease in wheat have been less frequent and less general in recent years.

If the average yield per acre be compared with the results obtained in the other states of the Commonwealth, it will be found that New South Wales occupies a satisfactory position, its average for the last ten years being exceeded only by Queensland and Western Australia, where the production is small. Below will be found the average and the maximum and minimum yields obtained in each state during the last decennium. It will be seen from the table that in New South Wales the season 1898-9 was the worst experienced during the period; the season 1896-7 the worst in South Australia and Western Australia; the season 1895-6 the worst in Victoria; 1896 the worst in Queensland; and 1893-4 the worst in Tasmania. For the season ended March, 1901, it will be seen that New South Wales produced one-third of the total wheat yield of the Commonwealth :—

| State. | Yield for Season ended March, 1901. | | Yield per acre during ten years, 1892–1901. | | |
|---|---|---|---|---|---|
| | Total. | Average. | Average. | Maximum. | Minimum. |
| | bushels. | bushels. | bushels. | bushels. | bushels. |
| New South Wales.. | 16,173,771 | 10·6 | 10·0 | 15·0 (1893) | 7·0 (1899) |
| Victoria ..... | 17,847,321 | 8·8 | 7·9 | 11·0 (1893) | 4·0 (1896) |
| Queensland ..... | 1,194,088 | 15·1 | 15·31 | 20·9 (1892) | 9·6 (1896) |
| South Australia ... | 11,253,148 | 5·9 | 4·7 | 7·8 (1894) | 1·7 (1897) |
| Western Australia.. | 774,176 | 10·4 | 10·6 | 13·8 (1891) | 7·8 (1897) |
| Tasmania ..... | 1,110,421 | 21·4 | 19·2 | 27·0 (1899) | 15·1 (1894) |
| Commonwealth... | 48,352,925 | 8·5 | 7·4 | 9·5 (1894) | 4·9 (1897) |

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Compared with the production of wheat in the majority of European countries, the yield of New South Wales will appear inconsiderable, both as regards the total quantity obtained and the average per acre. In the following table will be found returns from some of the chief wheat-growing countries of the world, showing the average production per acre of this cereal :—

| Country. | Average yield per acre. | Country. | Average yield per acre. |
|---|---|---|---|
| | bushels. | | bushels. |
| Denmark | 32·3 | Hungary | 16·8 |
| United Kingdom | 31·3 | Italy | 10·7 |
| Norway | 23·0 | United States | 13·4 |
| Belgium | 28·1 | Quebec, Nova Scotia, and New Brunswick. | 9·0 |
| Holland | 26·6 | | |
| Manitoba | 18·4 | Russia in Europe | 9·3 |
| Germany | 24·2 | India | 9·6 |
| France | 18·9 | Argentine | 13·9 |
| Austria | 16·3 | New Zealand (10 years) | 25·7 |
| Roumania | 13·4 | New South Wales (10 years) | 10·6 |
| British Columbia | 16·1 | Commonwealth of Australia (10 years) | 7·4 |
| Ontario | 19·9 | | |

## Consumption and Production of Wheat.

New South Wales was for many years largely dependent on external supplies to meet her demands for wheat consumption, but in 1898 for the first time the production exceeded the consumption, and there was an apparent surplus of 1,123,000 bushels. In 1899, however, the yield fell to 9,276,000 bushels, and there was a deficiency of over 2,000,000 bushels, but in the following year with, a harvest of over 13,000,000 bushels, there was a surplus of upwards of 3,500,000 bushels available for export. With a yield of 16,000,000 bushels for the year ending March, 1901, the quantity in excess of home requirements will be probably about 6,000,000 bushels. The apparent annual consumption per head of population ranges from 5·5 bushels in 1891 and 1892 to as much as 7·2 bushels in 1890, the quantity used in 1899 being 6·8 bushels, and in 1900 5·7 bushels per head. For earlier years the consumption appears to have been generally much higher than at the later periods, but as previously pointed out the quality of the yield was inferior in the initial stages of wheat-growing, and the produce used as human food varied according to the preponderance of wheat unfit for milling purposes. In more recent years occasional advances in the average may in like manner be ascribed to this cause, while the consumption is also affected by the state of the maize market, short supplies leading to a larger demand for wheat as food for poultry, &c.

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## Wheat Crop of the World.

The importance of Australasia in the wheat market of the world is not great, since, out of a total production of about 2,533 million bushels in 1900, only about 54 million bushels, or 2·1 per cent., were raised in Australasia. The following statement shows the wheat harvest of the world for the year 1900 :—

| Country. | Bushels. | Country. | Bushels. |
|---|---|---|---|
| Europe— | | Africa— | |
| Russia | 312,000,000 | Algeria | 18,000,000 |
| France | 296,000,000 | Egypt | 12,000,000 |
| Hungary | 144,800,000 | Tunis | 8,000,000 |
| Germany | 156,000,000 | Cape Colony | 4,000,000 |
| Italy | 116,000,000 | | |
| Spain | 102,000,000 | Total | 42,000,000 |
| United Kingdom | 54,400,000 | | |
| Austria | 40,800,000 | | |
| Roumania | 54,000,000 | America— | |
| Bulgaria | 40,000,000 | United States | 544,000,000 |
| Turkey | 32,000,000 | Argentine Republic | 72,000,000 |
| Belgium | 12,000,000 | Canada | 48,000,000 |
| Servia | 12,000,000 | Mexico | 16,000,000 |
| Portugal | 4,000,000 | Chili | 8,000,000 |
| Sweden and Norway | 4,000,000 | Uruguay | 16,000,000 |
| Holland | 4,000,000 | | |
| Switzerland | 4,000,000 | Total | 704,000,000 |
| Denmark | 4,000,000 | | |
| Greece | 6,000,000 | | |
| | | Australasia— | |
| Total | 1,398,000,000 | Victoria | 17,847,000 |
| | | New South Wales | 16,174,000 |
| Asia— | | New Zealand | 6,527,000 |
| India | 184,000,000 | South Australia | 11,253,000 |
| Russia in Asia | 48,000,000 | Tasmania | 1,110,000 |
| Turkey | 56,000,000 | Western Australia | 774,000 |
| Japan | 19,388,000 | Queensland | 1,194,000 |
| Persia | 24,000,000 | | |
| Cyprus | 2,300,000 | Total | 54,879,000 |
| Total | 333,688,000 | Grand Total | 2,532,567,000 |

The total wheat production of Europe, Asia, Africa, America, Australasia, and of the world is given below for the last five years :—

| | 1896. | 1897. | 1898. | 1899. | 1900. |
|---|---|---|---|---|---|
| | bushels. | bushels. | bushels. | bushels. | bushels. |
| Europe | 1,467,200,000 | 1,116,400,000 | 1,502,000,000 | 1,442,400,000 | 1,398,000,000 |
| Asia | 359,730,000 | 377,212,000 | 441,052,000 | 399,330,000 | 333,688,000 |
| Africa | 38,400,000 | 32,000,000 | 40,400,000 | 34,000,000 | 42,000,000 |
| America | 554,000,000 | 718,000,000 | 896,000,000 | 780,000,000 | 704,000,000 |
| Australasia | 26,792,000 | 33,911,000 | 54,485,000 | 48,580,000 | 54,879,000 |
| Grand Total | 2,446,122,000 | 2,277,523,000 | 2,933,937,000 | 2,704,310,000 | 2,532,567,000 |

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The world's wheat harvest in 1894 and 1895 was much below the average, in 1896 it was only about equal to requirements, while the return for 1897 showed a considerable deficiency. It therefore became necessary to make such heavy demands on the reserve stocks that before the close of 1898 the point of exhaustion was practically reached, and gloomy anticipations were indulged in for the future. Happily the record yield of 1898 enabled the diminished stocks to be replenished, and further augmentation was possible after the harvest of 1899. The yield in 1900 was about equal to requirements. For 1898 the world's consumption was estimated to be about 2,500,000,000 bushels. Calculations over a series of years show the average annual increase in requirements to be from 20,000,000 to 28,000,000 bushels, but under certain circumstances the consumption is capable of, and sometimes experiences, a 10 per cent. reduction. Ordinary consumption has in all probability been well maintained during the last three years, and placing against the total production for the seasons 1898, 1899 and 1900, an average consumption of 2,525,000,000 bushels per annum for 1899, 1900 and 1901, the apparent reserve stocks of the world would amount to about 595,000,000 bushels.

Notwithstanding the abnormally high American returns, their effect upon the world's supply is only of temporary duration. In average years the importing countries of Europe require a supply of about 200,000,000 bushels, which the exporting countries are not always able to furnish; and it is an acknowledged fact that in the United States the growth of the population is proportionally greater than the increase of area sown to this cereal. In Russia and in Central Europe the consumption of wheat is increasing among populations that were in former years satisfied with grain of an inferior description, while there is throughout the old world a tendency to a reduction in the area under wheat cultivation. In view of these facts, it is reasonable to expect a great development in wheat-growing in Australia, which must, before many more years pass, begin to take a prominent place amongst the exporting countries, and in this development New South Wales promises to play an important part. A great proportion of the immense areas of the state hitherto devoted exclusively to pastoral pursuits consists of land which could be profitably utilised for agriculture, much of it being more suitable for the cultivation of wheat than some of the land now under crop; and the returns show that wheat-growing, which was formerly confined to small farmers, is now engaging the attention of a number of the large landholders.

Much of the new area which is being brought under wheat in New South Wales is cultivated on the shares system. Under this system the owner leases the land to the agriculturist for a season, or a few seasons, for the purpose of wheat-growing only, the farmer possessing the right of running upon the estate the horses necessary for working the farm, and the owner the right of depasturing his stock when the land is not in actual cultivation. It is usual for the owner to

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provide seed, and the tenant labour; and up to a specified yield the parties to the agreement take equal shares of the produce, any excess going to the farmer as a bonus.

## Price of Wheat.

The price of wheat is subject to constant fluctuation, as the following table, giving the average rates ruling in the Sydney market in the months of February and March of each year since 1864, will show. These figures exhibit clearly the tendency to a gradual reduction in the value of the cereal down to 1895, when the price was the lowest of the series. In 1896, however, owing to a decrease in the world's supplies, the price rose considerably, and led to an extension of cultivation in Australasia. Hitherto, with a deficiency in the local production, the price in Sydney has been generally governed by the rates obtained in the neighbouring Australian markets where a surplus was produced. These, again, are now determined by the figures realised in London, which are usually equal to those ruling in Adelaide, plus freight and charges. The prices in the following table are for an Imperial bushel, and, being for new wheat, are slightly below the average for the year:—

| Year. | February. | March. | Year. | February. | March. | Year. | February. | March. |
|---|---|---|---|---|---|---|---|---|
| | per bushel. | per bushel. | | per bushel. | per bushel. | | per bushel. | per bushel. |
| | s. d. | s. d. | | s. d. | s. d. | | s. d. | s. d. |
| 1864 | 7 0 | 7 6 | 1877 | 6 1½ | 6 6 | 1890 | 3 6 | 3 6 |
| 1865 | 9 6 | 9 7½ | 1878 | 6 1½ | 5 7½ | 1891 | 3 7½ | 3 10 |
| 1866 | 8 4½ | 8 0 | 1879 | 5 0 | 4 9½ | 1892 | 4 9 | 4 9 |
| 1867 | 4 3 | 4 4 | 1880 | 4 8 | 4 9 | 1893 | 3 6½ | 3 6 |
| 1868 | 5 9 | 5 9 | 1881 | 4 1 | 4 3 | 1894 | 2 11 | 2 8 |
| 1869 | 4 9 | 4 10 | 1882 | 5 5 | 5 6 | 1895 | 2 7 | 2 7 |
| 1870 | 5 0 | 5 1½ | 1883 | 5 1½ | 5 2 | 1896 | 4 4½ | 4 5 |
| 1871 | 5 7½ | 5 9 | 1884 | 4 3 | 4 3 | 1897 | 4 8 | 4 6½ |
| 1872 | 5 0½ | 5 3 | 1885 | 3 10½ | 3 7½ | 1898 | 4 0 | 4 0 |
| 1873 | 5 1 | 5 8½ | 1886 | 4 3½ | 4 5 | 1899 | 2 7½ | 2 9 |
| 1874 | 6 9 | 6 1½ | 1887 | 3 10 | 3 11 | 1900 | 2 9 | 2 8 |
| 1875 | 4 7½ | 4 6 | 1888 | 3 6 | 3 6½ | 1901 | 2 7 | 2 7 |
| 1876 | 5 1½ | 5 6 | 1889 | 4 9 | 5 3 | | | |

## Cost of Growing and Exporting Wheat.

The cost of raising wheat depends entirely upon the size of the holding. A large farm, with first-class agricultural appliances, is capable of being worked at nearly half the cost of a small one, and in cases where the initial expenses of suitable machinery have been disbursed, the cost of production varies from 1s. to 1s. 3d. a bushel. An estimate of the cost of growing wheat ought to include rent, or interest on purchase-money of land, and carriage to the point of consumption. For

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an area so extensive as that over which wheat-growing is pursued in New South Wales, a separate estimate of these items is well nigh impossible; but it is evident that they tend to a fixed quantity, for where facilities for reaching market are large, and the cost inconsiderable, rent is high, and where conditions are unfavourable rent is correspondingly low. Leaving out of consideration rent, interest, and carriage, the cost of growing wheat in New South Wales is approximately as follows :—

| | s. | d. | |
|---|---|---|---|
| On large farms, with first-class appliances ... ... | 15 | 6 | per acre. |
| On moderate-sized farms, with good appliances ... | 20 | 0 | ,, ,, |
| On small farms ... ... ... ... ... ... | 27 | 0 | ,, ,, |

The rates given include seed, expenses incurred in the preparation of land for cropping, and in sowing and harvesting, as well as depreciation in stock and appliances. The cost of bags is, however, not included.

This estimate refers to farms worked in the ordinary way by the proprietors or occupiers. The tendency is towards a greater number of large farms, with a fall in the general cost of production; and with the utilisation of some of the pastoral areas for cultivation on "shares," the cost is being still further reduced. It is evident that, when the season is favourable, the large grower will be in the best position to face the market when the question of export arises. Apart from the initial cost of raising the cereal, the cost of placing the wheat on the London market, from the point of production on the farm, might be set down as follows :—

| | | |
|---|---|---|
| Cartage to railway station ... ... ... | 3d. | per bush. |
| Average railway freight ... ... ... ... | 4d. | ,, |
| Expenses in port ... ... ... ... ... | 1d. | ,, |
| Ocean freight (27s. 6d. per ton) ... ... | 9d. | ,, |
| Insurance, Selling and other charges in London | 3d. | ,, |
| Total ... ... ... | 1s. 8d. | ,, |

The London charges cover city and market dues, landing and docking, sampling and superintending, rent, brokerage, and commission. Freight has been calculated at 27s. 6d. per ton, which is the average for the past year. In January and February, 1900, the rates were over 35s. per ton. The present rate may be quoted at 30s., and although through scarcity of wool the charge has fallen as low as 20s. per ton, it is improbable that the average will be below that stated above.

In time railway extension will reduce the expense of conveying wheat to the trucks, but, taking all things into consideration, it is not likely that the cost of exportation will fall below 1s. 6d. per bushel, at which figure there is little in favour of the American producer, reckoning railway freight from Chicago to the Atlantic seaboard. In the case of the Argentine, the cost would be about the same, including railway freight from Rosario to Buenos Ayres; but it is evident that the cost of production is not so high as in New South

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Wales, for in a Consular report to the Board of Trade it is stated that wheat can be delivered at Rosario at less than 1s. 6d. a bushel. The average price of wheat in London for the last seven years was 3s. 4½d. per bushel, the maximum being 4s. 3d. in 1898, and the minimum 2s. 10¼d. in 1894.

### Augmentation of the Wheat Yield.

The reduction of the wheat-growing areas in the old world, and the diminution in the American exportable surplus with the growth of population, have called forth a warning from Sir William Crooke, in a recent Presidential address to the British Association, that recourse must soon be had to chemical science for the purpose of increasing the productive capacity of the soil. It is possible that this eminent scientist has failed to recognise the immense possibilities of Australia, not to speak of other sparsely populated countries whose contributions to the world's wheat supply are insignificant at the present time; still, the question of increasing the productiveness of wheat-lands is bound to receive the attention it deserves, especially in countries where there is practically no more land to be brought into cultivation. In France, indeed, much has already been accomplished in this direction. In some districts the poorer peasant farmers still pursue their calling in a primitive manner, but in other parts of the country the application of scientific knowledge has greatly increased the fertility of the soil, and the average yield is rising. In one case, Professor Grandeau had no difficulty in increasing the yield from 25 to 38 bushels per acre without further expenditure on manure; in another case, 70 bushels per acre was secured from a farm of 12½ acres. Although at the present time the average yield in France is only about 19 bushels, yet the highly cultivated districts give an average of over 30 bushels; indeed, in some of these districts 33 bushels is regarded as a merely satisfactory yield—a good one would be represented by 43 bushels, and in exceptional cases 48 to 56 bushels are obtained.

In New South Wales, with its great areas of arable land, the necessity for the adoption of the higher forms of cultivation has not yet been felt. It is certain, however, that the serious foundation of an agricultural industry will lead to an inquiry into the best methods of cultivation, which involve deep ploughing, less seed, and sowing by drill with fertilisers. At the Wagga Experimental Farm an acre of land sown with only 4 lb. of seed, put in in rows, resulted in a crop of 48 bushels. According to the advocates of drilling, the proper quantity to sow is 8 or 9 lb. per acre, whereas for broadcasting not less than a bushel is used, and generally rather more. The system of rotation of crops also favours an increased yield, leguminous crops supplying nitrogen to soil which has been robbed of it by cereals. For the present, the holders of large estates who have taken to wheat-farming will no doubt find it more advantageous to secure lighter crops off extensive areas with a small amount of labour. Lower values locally may be expected to

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accompany a large export trade, and though the grower with thousands of acres under crop will get a fair return from a light average yield, it will be necessary for the small farmer to resort to scientific cultivation. This matter is now engaging the attention of the Department of Agriculture, so that it may be prepared to render assistance to the grower.

## WHEATEN HAY.

Wheat is grown in considerable quantities for hay and dry fodder for cattle, and the area cut for hay is steadily increasing, although, of course, it is largely dependent upon the fitness of the crops to be reaped for grain. The following statement shows the average acreage and production of wheat cut for hay, in quinquennial periods from 1863 to 1897, and the totals for each year from 1890 to 1901 :—

| Period or year. | Area. | Yield per annum. | | Period or year. | Area. | Yield per annum. | |
|---|---|---|---|---|---|---|---|
| | | Total. | Average per acre | | | Total. | Average per acre. |
| | acres. | tons. | tons. | | acres. | tons. | tons. |
| 1863–67 | 10,296 | 9,693 | 1·0 | 1893 | 89,396 | 116,061 | 1·30 |
| 1868–72 | 12,535 | 13,346 | 1·1 | 1894 | 101,875 | 100,482 | 1·00 |
| 1873–77 | 10,690 | 12,876 | 1·2 | 1895 | 125,797 | 136,837 | 1·10 |
| 1878–82 | 31,675 | 44,705 | 1·4 | 1896 | 172,614 | 99,679 | 0·58 |
| 1883–87 | 71,543 | 74,180 | 1·0 | 1897 | 161,136 | 118,337 | 0·73 |
| 1888–92 | 79,264 | 84,936 | 1·1 | 1898 | 213,720 | 181,645 | 0·85 |
| 1893–97 | 130,164 | 114,279 | 0·9 | 1899 | 312,451 | 177,002 | 0·57 |
| 1890 | 82,880 | 140,348 | 1·69 | 1900 | 414,813 | 341,200 | 0·82 |
| 1891 | 83,827 | 96,014 | 1·15 | 1901 | 332,143 | 347,743 | 1·00 |
| 1892 | 66,435 | 75,883 | 1·14 | | | | |

Up to the year 1893 the cultivation of wheat for hay increased in a much greater ratio than that for grain, the area so cultivated in 1893 being more than seven times that cultivated for the same purpose in 1872, during which period the grain area increased only three-fold.

For the seven years 1893–1900, the period which marks the great advance in wheat growing, there is not much difference in the ratio of increase for grain and for hay. The area for hay was abnormally high in 1900, but for 1901 it was little more that of the year 1899, while a comparison between 1893 and 1901 shows that the ratio of increase is about equal for grain and hay. A series of dry years in some measure accounts for the increased area devoted to hay; but the steady demand both for hay and chaff, wheaten as well as oaten, and the large import of this produce, fully justify an extension of its cultivation. There still exists a difference between the demand for hay and the supply from within the state, as there was in 1900 a net import of 31,160 tons of hay and chaff, principally for consumption in the metropolitan district.



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The total area under wheat for the year ended March, 1901, both for grain and for hay, was 1,862,752 acres, producing 16,173,771 bushels of grain and 347,743 tons of hay, the value of both kinds of produce being £2,931,476. The following table shows the total area under wheat, the areas cut for grain and for hay, and the proportion of each to the total area :—

| Year ended 31st March. | Total area under Wheat. | Area cut for | | Proportion cut for | |
|---|---|---|---|---|---|
| | | Grain. | Hay. | Grain. | Hay. |
| | Acres. | Acres. | Acres. | Per cent. | Per cent. |
| 1880 | 258,549 | 233,268 | 25,281 | 90·2 | 9·8 |
| 1881 | 294,274 | 253,137 | 41,137 | 86·0 | 14·0 |
| 1882 | 261,315 | 221,887 | 39,428 | 84·9 | 15·1 |
| 1883 | 289,953 | 247,361 | 42,592 | 85·3 | 14·7 |
| 1884 | 339,105 | 289,757 | 49,348 | 85·4 | 14·6 |
| 1885 | 361,833 | 275,249 | 86,584 | 76·1 | 23·9 |
| 1886 | 369,989 | 264,867 | 105,122 | 71·6 | 28·4 |
| 1887 | 411,790 | 337,730 | 74,060 | 82·0 | 18·0 |
| 1888 | 449,730 | 389,390 | 60,340 | 86·6 | 13·4 |
| 1889 | 407,191 | 304,803 | 102,388 | 74·8 | 25·2 |
| 1890 | 502,638 | 419,758 | 82,880 | 83·5 | 16·5 |
| 1891 | 417,060 | 333,233 | 83,827 | 79·9 | 20·1 |
| 1892 | 423,101 | 356,666 | 66,435 | 84·3 | 15·7 |
| 1893 | 542,317 | 452,921 | 89,396 | 83·5 | 16·5 |
| 1894 | 695,685 | 593,810 | 101,875 | 85·3 | 14·7 |
| 1895 | 773,280 | 647,483 | 125,797 | 83·7 | 16·3 |
| 1896 | 769,298 | 596,684 | 172,614 | 77·6 | 22·4 |
| 1897 | 1,027,248 | 866,112 | 161,136 | 84·3 | 15·7 |
| 1898 | 1,207,070 | 993,350 | 213,720 | 82·3 | 17·7 |
| 1899 | 1,631,954 | 1,319,503 | 312,451 | 80·9 | 19·1 |
| 1900 | 1,840,979 | 1,426,166 | 414,813 | 77·5 | 22·5 |
| 1901 | 1,862,752 | 1,530,609 | 332,143 | 82·2 | 17·8 |

## MAIZE.

The cultivation of maize is almost as important as that of wheat, and forms the staple industry in the valleys of the coastal rivers, where both soil and climate are peculiarly adapted for the growth of this cereal. On the table-land also its cultivation is attended with fair results, but as the land rises in elevation so does the average yield per acre proportionately decrease. Attempts have been made to grow maize in the western division of the state, but success has been met with only under special conditions of natural or artificial irrigation, for the plant demands a considerable amount of moisture, and thrives better in the humid climate of the coast than anywhere else in the country. Although the area under maize is much less than that under wheat, the gross yield obtained, measured by bushels, is frequently as large as that of the latter cereal, and in some seasons even greatly in excess of it.

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The area under maize has increased from 75,991 acres in the year 1863 to 206,051 acres in 1901, or less than three-fold during thirty-nine years. Considered in the light of the general advance of settlement, particularly in those districts where maize may be successfully cultivated, the progress here exhibited is slow, especially as there is no lack of land in New South Wales fit for the cultivation of this cereal. In the year 1888 an additional area of 24,705 acres was laid down with maize for grain—a much greater increase than was shown during any of the previous twenty-five years, with the exception of the year 1879, when 25,072 acres were added to the total for the previous year. For the next five years the area fluctuated considerably, and in 1893 it showed a decrease of 23,603 acres from the figures of 1891, many farmers, discouraged by the low price realised for the produce, putting their land to other uses. The year 1894, however, experienced the notable increase of 38,336 acres, or over 22 per cent. on the figures for 1893; but five years after, in 1899, the area was 12,599 acres less than in 1894. In 1900 there was a further considerable increase, but in March, 1901, the area had practically dropped again to that of 1894.

The state of maize cultivation during the period from 1863 to 1901 is shown in the following table. The average yearly acreage and production are given in quinquennial periods, and annually for the last twelve years :—

| Period or year ended 31st March. | Area under crop. | Annual Production. | |
|---|---|---|---|
| | | Total. | Average per acre. |
| | acres. | bushels. | bushels. |
| 1863–67 | 101,245 | 3,047,478 | 30·1 |
| 1868–72 | 118,301 | 3,629,468 | 30·7 |
| 1873–77 | 117,155 | 3,804,463 | 32·5 |
| 1878–82 | 123,160 | 4,316,819 | 35·0 |
| 1883–87 | 127,416 | 4,029,410 | 31·6 |
| 1888–92 | 175,466 | 5,330,653 | 30·4 |
| 1893–97 | 200,845 | 5,834,322 | 29·0 |
| 1890 | 173,836 | 5,354,827 | 30·8 |
| 1891 | 191,152 | 5,713,205 | 29·9 |
| 1892 | 174,577 | 5,721,706 | 32·8 |
| 1893 | 167,549 | 5,037,256 | 30·0 |
| 1894 | 205,885 | 7,067,576 | 34·3 |
| 1895 | 208,308 | 5,625,533 | 27·0 |
| 1896 | 211,104 | 5,687,030 | 27·0 |
| 1897 | 211,382 | 5,754,217 | 27·2 |
| 1898 | 209,588 | 6,713,060 | 32·0 |
| 1899 | 193,286 | 6,064,842 | 31·4 |
| 1900 | 214,697 | 5,976,022 | 27·8 |
| 1901 | 206,051 | 6,292,745 | 30·5 |
| Average yield for thirty-nine years ..... | | | 31·58 |
| ,, ,, last ten years ..... | | | 29·93 |

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The yield per acre is somewhat variable, ranging from a minimum of 21·8 bushels, which was obtained in the year 1871, to a maximum of 38·1 in 1870; but when taken periodically, as in the first part of the foregoing table, the result is more satisfactory, the range being only from 29 to 35 bushels per acre.

The next statement shows the distribution of the area under crop for maize during the season 1900–01, with the total and average yield in each division :—

| Division. | Area. | Production. | Average yield. |
|---|---|---|---|
| Coastal Division— | acres. | bushels. | bushels. |
| North Coast | 99,663 | 3,455,902 | 34·6 |
| Lower Hunter | 25,969 | 855,110 | 32·9 |
| County of Cumberland | 5,367 | 216,228 | 40·3 |
| South Coast | 16,787 | 657,441 | 39·1 |
| Total | 147,786 | 5,184,681 | 35·1 |
| Table-land Division— | | | |
| Northern Table-land | 23,006 | 416,533 | 18·1 |
| Central Table-land | 17,210 | 378,424 | 21·9 |
| Southern Table-land | 10,659 | 253,328 | 23·7 |
| Total | 50,875 | 1,048,285 | 20·6 |
| Western Slopes and Riverina Division— | | | |
| Northern-western Slope | 931 | 3,511 | 3·7 |
| Central-Western Slope | 5,290 | 38,938 | 7·3 |
| South-western Slope | 1,134 | 17,130 | 15·1 |
| Riverina | 10 | 100 | 10·0 |
| Total | 7,365 | 59,679 | 8·1 |
| The Western Plains | 25 | 100 | 4·0 |
| Grand Total | 206,051 | 6,292,745 | 30·5 |

From this table it will be seen that the north coast is the most important maize-growing district, yielding last season 55 per cent. of the total production of the state, with an average of 34·6 bushels per acre. The central coast district, including the Lower Hunter, and the metropolitan county of Cumberland, is next in importance with 17 per cent. of the total crop, and an average yield of 32·9 in the first division, and 40·3 in Cumberland. The south coast contributes about 10 per cent. of the total yield. In both the north and south coast districts maize is cultivated extensively in every county, the highest total yield coming from the county of Macquarie, with 973,146 bushels, and the highest average yield from the county of Dudley, with 44·3 bushels. On the northern table-land nearly three-fourths of the production was grown in the counties of Gough, Clive, Sandon, and Parry,

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but the highest average was in the county of Gresham. The crop is very generally cultivated in the central table-land, the highest average being about 45 bushels in the county of Cook. On the southern table land more than three-fourths of the production is grown in the counties of Buccleuch and Wynyard; but the highest average was returned by county Cowley with 51 bushels per acre.

The estimated yield of the world's crop of maize is about 2,920 million bushels, of which quantity New South Wales produces less than the five-hundredth part.

The following table, compiled for the purpose of showing the annual movement of the maize market of New South Wales for the last twelve years, also shows the yearly requirements for home consumption :—

| Year. | Production. | Import. | Export. | Excess of— | | Consumption |
|---|---|---|---|---|---|---|
| | | | | Import. | Export. | |
| | bushels. | bushels. | bushels. | bushels. | bushels. | bushels. |
| 1889 | 4,910,404 | 237,660 | 366,063 | ..... | 128,403 | 4,728,001 |
| 1890 | 5,354,827 | 563,721 | 30,811 | 532,910 | ..... | 5,887,737 |
| 1891 | 5,713,205 | 290,786 | 17,626 | 273,160 | ..... | 5,986,365 |
| 1892 | 5,721,706 | 324,949 | 19,326 | 305,623 | ..... | 6,027,329 |
| 1893 | 5,037,256 | 166,841 | 12,270 | 154,571 | ..... | 5,191,827 |
| 1894 | 7,067,576 | 58,027 | 11,733 | 46,294 | ..... | 7,113,870 |
| 1895 | 5,625,533 | 2,489 | 42,296 | ..... | 39,807 | 4,585,726 |
| 1896 | 5,687,030 | 111,018 | 62,388 | 48,630 | ..... | 5,735,660 |
| 1897 | 5,754,217 | 339,643 | 107,224 | 232,419 | ..... | 5,986,636 |
| 1898 | 6,713,060 | 225,860 | 215,977 | 9,883 | ... ..... | 6,722,943 |
| 1899 | 6,064,842 | 604,452 | 247,051 | 357,401 | ..... | 6,422,243 |
| 1900 | 5,976,022 | 510,293 | 129,655 | 380,638 | ..... | 6,356,660 |

The future of this branch of agricultural industry seems limited to the supply of local wants, as New South Wales is adjacent to several maize-producing countries which are already commencing to compete against her in her own markets. Until 1890 the state produced more than could be locally consumed, and exported a small quantity to her southern neighbours; but in that year, owing to a sudden increase in the demand for maize, the reason for which was not apparent, the large production would seem to have been insufficient, a net quantity of 533,000 bushels of grain having been imported in the course of the twelve months. This import, though on a smaller scale, continued until 1895, when there was again a net export of the grain, the quantity being about 40,000 bushels.

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In 1896, however, there was a net import, amounting to nearly 49,000 bushels; and in 1897, although the production was considerably larger than in the preceding year, the net import was as high as 232,000 bushels. In 1898 the net import was only 9,883 bushels; but in 1899 and 1900 it was over 350,000 bushels each year.

As a deficiency in production has not the usual result of causing a sensible increase in the prices paid to the New South Wales farmers, it is a matter of some doubt whether the importations made have not for their object the keeping of a stock of grain in the hands of dealers sufficient to prevent a hardening of the wholesale rates. In such case the deficiency in the production would seem to be more apparent than real. However this may be, it does not seem probable that this branch of farming can be expanded with much profit to the growers, unless the local consumption should considerably increase.

Maize is not only cultivated as a grain crop, but a small area is sown for green food for cattle, chiefly on dairy farms. In 1900–01, the area thus cultivated was 13,598 acres. The total area under maize for grain and fodder during the season was 219,649 acres.

## Oats.

The cultivation of oats as a staple crop has been much neglected in New South Wales, though the return has been fairly satisfactory. It is possible that in the near future this grain will receive greater attention, especially as the deficiency between the production and the consumption is very considerable. The elevated districts of Monaro, Argyle, Bathurst, and New England contain vast areas of land where the cultivation of oats could be carried on with remunerative results.

The cereal is cultivated as a grain crop, principally in the wheat-growing districts; and as it is essentially a product of cold climates, it thrives best in those parts of the country which have a winter of some severity. The average yield for 1900–01 was 20·2 bushels per acre. The table-land is the principal centre of cultivation, but from an area of 18,643 acres the average yield last season was only 18·6 bushels per acre as compared with 23·2 bushels on the Western Slopes from 10,223 acres. The Northern Table-land averaged 25·4 bushels; the central, 13·4 bushels; and the southern, 16·2 bushels—these districts producing 347,264 bushels of grain out of a total yield of 593,548 bushels. On the South-western Slope 165,428 bushels were produced, the average yield being 22·3 bushels to the acre; and 3,839 bushels from the South Coast, 3,905 bushels from the Lower Hunter, 17,168 bushels from the Central-western Slope, 50,837 bushels from the Riverina, 4,316 bushels from the North-western Slope, and 791 bushels from other districts complete the production.

The following table illustrates the state of the cultivation of oats since 1863. The average yearly acreage and production are given in

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quinquennial periods up to 1897, and annually for the last ten years, the agricultural year ending March 31 :—

| Period or year. | Area. | Production per annum. | | Period or year. | Area. | Production per annum. | |
|---|---|---|---|---|---|---|---|
| | | Total. | Average per acre. | | | Total. | Average per acre. |
| | acres. | bushels. | bushels. | | acres. | bushels. | bushels. |
| 1863–67 | 12,592 | 204,979 | 16·3 | 1895 | 30,636 | 562,725 | 18·4 |
| 1868–72 | 13,410 | 224,534 | 16·7 | 1896 | 23,750 | 374,196 | 15·8 |
| 1873–77 | 17,753 | 340,286 | 19·1 | 1897 | 39,530 | 834,633 | 21·1 |
| 1878–82 | 19,772 | 407,277 | 20·6 | 1898 | 28,605 | 543,946 | 19·0 |
| 1883–87 | 20,032 | 460,003 | 22·9 | 1899 | 19,874 | 278,007 | 14·0 |
| 1888–92 | 15,359 | 316,188 | 20·4 | 1900 | 29,125 | 627,904 | 21·6 |
| 1893–97 | 29,791 | 587,992 | 19·7 | 1901 | 29,383 | 593,548 | 20·2 |
| 1892 | 12,958 | 276,259 | 21·3 | | | | |
| 1893 | 20,890 | 466,603 | 22·3 | Average for 39 years ... ... | | | 19·3 |
| 1894 | 34,148 | 701,803 | 20·5 | ,, ,, last 10 years ... | | | 19·6 |

The acreage under oats for grain increased rapidly during the earlier years of the period covered by this table, but remained practically stationary from 1878 until 1894, when over 13,000 acres were added to the area under crop during the preceding year. In 1896 the area cut for grain was 10,398 acres smaller than in 1894; but this was due to the failure of the crops, caused by the absence of rain, the area cropped for hay being 38,107 acres above the corresponding figure two years before. This decrease was more than made up in 1897, when the area cut for grain was no less than 39,530 acres; and in 1898 the total area sown with oats was the highest recorded, but the greater portion was cut for hay, the area reaped for grain falling to 28,605 acres. In 1899 the area of oats for grain fell to 19,874 acres, but rose again in 1900 to 29,125 acres, and for the year ended March, 1901, it stood at 29,383 acres. The market for oats is chiefly in the metropolitan district, and the demand depends largely upon the price of maize.

The average yield of oats during the decennial period 1892–1901 was 19·6 bushels per acre, the minimum being 14·0 bushels in the season 1898–9, and the maximum, 24·3 bushels in the season 1889–90.

The production is far from satisfying the wants of the state, the net importation for 1900, including oatmeal, being equivalent to 1,187,529 bushels, of the estimated value of £132,493. New Zealand is the principal source of supply, the quantity obtained from that country being equivalent to 1,069,991 bushels, inclusive of meal, but of this a small proportion was re-exported. Much yet remains to be done before the state can be independent of outside assistance in regard to the supply of oats, as during the ten years ended 1900 the average quantity produced was only 29 per cent. of the amount consumed for food and seed, and on the basis of the mean annual average yield per acre during the same period there was an ample market for the produce of over 62,000 acres more than the average area reaped.

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In parts of the state where the climate is not suitable for maturing the grain, a large area is sown for hay. The average area cut for this purpose during the five years 1878–82 was 64,007 acres, which increased to 113,057 acres in the next quinquennium. From the year 1888 it fluctuated considerably, and no particular increase occurred until 1896, when the acreage cut for hay was 120,857, the dry weather preventing the maturity of the crops for grain. The next two seasons were also dry, and in 1897 there was a further increase to 133,946 acres, and in 1898 to 152,598 acres. In 1899 the area cut for hay again fell, being only 115,147 acres, and in March, 1901, the area was only 96,105 acres.

The following statement shows the average annual acreage and the production of oaten hay, for the seven quinquennial periods ended 1893–97, and the actual area and production for each of the last ten years :—

| Period or year. | Area. | Production. | | Period or year. | Area. | Production. | |
|---|---|---|---|---|---|---|---|
| | | Total. | Per acre. | | | Total. | Per acre. |
| | acres. | tons. | tons. | | acres. | tons. | tons. |
| 1863–67 | 36,110 | 36,948 | 1·0 | 1895 | 96,856 | 95,517 | 1·0 |
| 1868–72 | 41,155 | 46,772 | 1·1 | 1896 | 120,857 | 79,635 | 0·7 |
| 1873–77 | 53,401 | 62,366 | 1·2 | 1897 | 133,946 | 142,957 | 1·1 |
| 1878–82 | 64,007 | 85,259 | 1·3 | 1898 | 152,598 | 138,546 | 0·9 |
| 1883–87 | 113,057 | 131,954 | 1·2 | 1899 | 115,147 | 79,011 | 0·7 |
| 1888–92 | 84,414 | 90,236 | 1·1 | 1900 | 105,404 | 130,340 | 1·3 |
| 1893–97 | 107,278 | 108,933 | 1·0 | 1901 | 96,105 | 92,749 | 1·0 |
| 1892 | 76,589 | 86,077 | 1·1 | | | | |
| 1893 | 101,981 | 132,426 | 1·3 | Average for 39 years ... ... ... | | | 1·1 |
| 1894 | 82,750 | 94,128 | 1·1 | ,, ,, last 10 years ... ... | | | 1·0 |

The following table shows the total area under oats, together with the areas and proportion cut for grain and for hay, during the last ten years. The area cut for green food is not included :—

| Year ended 31st March. | Total area under Oats. | Area cut for— | | Proportion of total area cut for— | |
|---|---|---|---|---|---|
| | | Grain. | Hay. | Grain. | Hay. |
| | acres. | acres. | acres. | per cent. | per cent. |
| 1892 | 89,547 | 12,958 | 76,589 | 14·5 | 85·5 |
| 1893 | 122,871 | 20,890 | 101,981 | 17·0 | 83·0 |
| 1894 | 116,898 | 34,148 | 82,750 | 29·2 | 70·8 |
| 1895 | 127,501 | 30,636 | 96,865 | 24·0 | 76·0 |
| 1896 | 144,607 | 23,750 | 120,857 | 16·4 | 83·6 |
| 1897 | 173,476 | 39,530 | 133,946 | 22·8 | 77·2 |
| 1898 | 181,203 | 28,605 | 152,598 | 15·8 | 84·2 |
| 1899 | 135,021 | 19,874 | 115,147 | 14·7 | 85·3 |
| 1900 | 134,529 | 29,125 | 105,404 | 21·6 | 78·4 |
| 1901 | 125,488 | 29,383 | 96,105 | 23·4 | 76·6 |

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In addition to the area cultivated for grain and hay, a small extent of land is yearly sown for green oaten fodder. Last season 11,248 acres of oat-lands were so used. The total area under oats during the year ended 31st March, 1901, was therefore 136,736 acres, a decrease of 7,940 acres on the area of the previous season, and 50,425 acres less than that of the year ended March, 1898.

### Minor Grain Crops.

The minor grain crops harvested are barley, rye, millet, and sorghum. Little can be said on this subject except that, as in the case of other cereals, the suitability of the soil for their production is an established fact. There is, however, so little demand for these kinds of grain that their cultivation in the state is very limited.

In 1900–01 barley was sown on 14,145 acres, of which 9,435 acres were for grain, with a production of 114,228 bushels; 904 acres were for hay, with a yield of 1,263 tons; and 3,806 acres were for green fodder. The world's estimated annual average yield of barley is stated at 802 million bushels.

The area under rye for grain in 1900–01 covered 1,996 acres, the produce from which was 25,052 bushels, or at the rate of 12·6 bushels to the acre. There were also 1,703 acres of rye sown for green food. The world's annual average yield of rye is estimated at 1,317 million bushels.

Millet was only cultivated over an area of 5,275 acres, 75 acres of which were harvested for grain only, 1,734 acres for both grain and fibre, 1,394 acres for fibre only, and 2,072 acres were cut for green food for cattle. The greater part of the crop of millet was grown in the Hunter River Valley. The total production of millet grain amounted to 20,835 bushels, or an average of 11·3 per acre. The total yield of fibre was 25,505 cwt., or or an average of 8·2 cwt. per acre.

The cultivation of sorghum for grain appears to have been abandoned, but the area sown in 1900–01 for green fodder for cattle extended over 11,717 acres, chiefly within the dairy-farming districts of the South Coast.

A number of minor grain crops other than those specified above are cultivated in the state, but owing to the small area tilled are not specified in the agricultural returns.

### Production and Consumption of Grain.

The mean population of New South Wales during the decennial period extending from 1891 to 1900 was 1,256,123; the average annual production of grain of all kinds was 14,110,575 bushels; and the annual consumption was 16,837,126 bushels. There was, therefore, an average annual deficiency of all kinds of grain during the ten years of 2,726,551 bushels. The average annual production per head of all kinds of grain in the state was 11·2 bushels, and the consumption per head, inclusive of

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seed grains, 13·4 bushels, leaving a deficiency per head of 2·2 bushels, which had to be made good by importation. The following table exhibits the total production of the grain crops grown in the state for the period under notice :—

| Year ended 31st March. | Production of Grain. | | | | | |
|---|---|---|---|---|---|---|
| | Wheat. | Maize. | Barley. | Oats. | Rye. | Millet. |
| | bushels. | bushels. | bushels. | bushels. | bushels. | bushels. |
| 1891 | 3,649,216 | 5,713,205 | 81,383 | 256,659 | 9,129 | 2,417 |
| 1892 | 3,963,668 | 5,721,706 | 93,446 | 276,259 | 11,390 | 5,079 |
| 1893 | 6,817,457 | 5,637,256 | 91,701 | 466,603 | 20,356 | 3,732 |
| 1894 | 6,502,715 | 7,067,576 | 114,272 | 701,803 | 19,522 | 9,244 |
| 1895 | 7,041,378 | 5,625,533 | 179,348 | 562,725 | 13,315 | 12,460 |
| 1896 | 5,195,312 | 5,687,030 | 96,119 | 374,196 | 8,078 | 9,725 |
| 1897 | 8,853,445 | 5,754,217 | 110,340 | 834,633 | 22,000 | 7,627 |
| 1898 | 10,560,111 | 6,713,060 | 99,509 | 543,946 | 26,145 | 13,071 |
| 1899 | 9,276,216 | 6,064,842 | 64,094 | 278,007 | 24,093 | 11,244 |
| 1900 | 13,604,166 | 5,976,022 | 132,476 | 627,904 | 44,598 | 22,975 |
| Total for 10 years | 75,463,684 | 59,360,447 | 1,062,688 | 4,922,735 | 198,626 | 97,574 |
| Mean annual average | 7,546,368 | 5,936,045 | 106,269 | 492,273 | 19,863 | 9,757 |
| | | | | | | 14,110,575 |

The resources of the state are such that under normal conditions the supply should largely exceed the requirements, and an increasing excess of production become yearly available for export. The only district that should be excepted from these remarks is Broken Hill and the extreme west, which is supplied, and will continue to be supplied, from South Australia. The table given hereunder shows the excess of imports over exports of grain during the decennium. Rye and millet have been omitted from the table, as there is scarcely any export or import. In 1891 and 1892 there was a net import of over 5 million bushels of grain of all kinds. Taking the mean annual average for the

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last decennium there was a net import of about half that quantity, and the year 1900 shows a net export of 1,632,086 bushels, there being a surplus of wheat amounting to more than double the deficiency of maize, barley, and oats.

| Year ended 31st Dec. | Net Imports of Grain. | | | |
|---|---|---|---|---|
| | Wheat. | Maize. | Barley. | Oats. |
| | bushels. | bushels. | bushels. | bushels. |
| 1891 | 3,140,687 | 273,160 | 60,031 | 1,650,469 |
| 1892 | 3,203,704 | 305,623 | 48,641 | 1,508,081 |
| 1893 | 1,708,523 | 154,571 | 58,626 | 1,413,591 |
| 1894 | 1,824,575 | 46,294 | 34,223 | 822,635 |
| 1895 | 1,226,031 | *39,807 | 5,140 | 912,007 |
| 1896 | 3,588,406 | 48,630 | 44,414 | 1,013,768 |
| 1897 | 622,912 | 232,419 | 45,514 | 814,633 |
| 1898 | *1,122,758 | 9,883 | 33,627 | 1,021,329 |
| 1899 | 2,126,453 | 357,401 | 115,966 | 1,837,142 |
| 1900 | *3,513,112 | 380,638 | 63,919 | 1,187,529 |
| Total for 10 years | 12,805,421 | 1,768,812 | 510,101 | 12,181,184 |
| Mean annual average | 1,280,542 | 176,881 | 51,010 | 1,218,118 |
| | | 2,726,551 | | |

* Net exports.

The total production, added to the net imports, will give the consumption, inclusive of seed grains, as shown in the subjoined table:—

| Year ended 31st Dec. | Consumption of Grain. | | | | | |
|---|---|---|---|---|---|---|
| | Wheat. | Maize. | Barley. | Oats. | Rye. | Millet. |
| | bushels. | bushels. | bushels. | bushels. | bushels. | bushels. |
| 1891 | 6,789,903 | 5,986,365 | 141,414 | 1,907,128 | 9,129 | 2,417 |
| 1892 | 7,167,372 | 6,027,329 | 142,087 | 1,784,340 | 11,390 | 5,079 |
| 1893 | 8,525,980 | 5,191,827 | 150,327 | 1,880,194 | 20,356 | 3,732 |
| 1894 | 8,327,290 | 7,113,870 | 148,495 | 1,524,438 | 19,522 | 9,244 |
| 1895 | 8,267,409 | 5,585,726 | 184,488 | 1,474,732 | 13,315 | 12,460 |
| 1896 | 8,783,718 | 5,735,660 | 140,533 | 1,387,964 | 8,078 | 9,725 |
| 1897 | 9,476,357 | 5,986,636 | 155,854 | 1,649,266 | 22,000 | 7,627 |
| 1898 | 9,437,353 | 6,722,943 | 133,136 | 1,565,275 | 26,145 | 13,071 |
| 1899 | 11,402,669 | 6,422,243 | 180,060 | 2,115,149 | 24,093 | 11,244 |
| 1900 | 10,091,054 | 6,356,660 | 196,395 | 1,815,433 | 44,598 | 22,975 |
| Total for 10 years | 88,269,105 | 61,129,259 | 1,572,789 | 17,103,919 | 198,626 | 97,574 |
| Mean annual average | 8,826,910 | 6,112,926 | 157,279 | 1,710,391 | 19,863 | 9,757 |
| | | | 16,837,126 | | | |

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The experience of past years distinctly shows that New South Wales is, on the whole, better favoured as regards soil, climate, and natural conditions than any other province of the Commonwealth; and, consequently, the average yield per acre of wheat, maize, and barley is, over a long period, greater in the parent state than in any of the remaining four, Victoria not excepted. Extending the field of comparison, the production of cereals is found to reach an average which places New South Wales on a level with countries usually considered as rich agricultural States. It is better than the average yield of the United States, Italy, and Hungary; and, in some respects, almost on a level with that of Germany, Austria, and France. The area adapted for cereal-growing is very considerable, and with a better knowledge of the capabilities of the various kinds of soil, and well-devised means of water-storage, there should be practically no limit to the production of grain.

### Standard Bushels of the Various Grains.

The weight of a bushel of wheat varies from 57½ to 63 lb., according to grade; but the standards, as enforced by Act of Parliament, assented to on the 10th February, 1880, for this and for other kinds of grain, are as follow:—

| | | |
|---|---|---|
| Wheat | 60 lb. | to the bushel. |
| Maize | 56 | ,, ,, |
| Barley—Cape | 50 | ,, ,, |
| ,, English | 52 | ,, ,, |
| Oats | 40 | ,, ,, |
| Rye | 60 | ,, ,, |
| Peas | 60 | ,, ,, |
| Beans | 60 | ,, ,, |

### Sown Grasses, as Food for Cattle.

Twenty years ago the area under permanent artificially-sown grasses was about 80,000 acres. A rapid development set in five years afterwards, the area advancing from 91,601 acres in 1884 to 361,280 acres in 1893, or a fourfold increase during the decennial period. Little was added to this up to March, 1900, but there was a substantial increase during the year ended March, 1901, the latest return showing a total area of 422,741 acres.

Permanent grasses are laid down principally in the north and south coast districts, 173,488 acres being thus cultivated in the latter division alone; while in the north coast there were 147,054 acres under grasses, of which 119,993 acres were in the county of Rous. There is also a considerable area under artificially-sown grasses for

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dairying purposes on the central table-land, and to a less extent on the southern and northern table-land, and in some parts of the Murray Valley, but in the other divisions the area is small, and is cultivated by holders principally for their own use. It is in those portions of the state where dairy-farming is principally carried on that the practice of laying down permanent grasses is most general.

The increasing demand for dairy produce, which is now to some extent being exported to the United Kingdom, has had a considerable influence upon the extension of the area under artificial pastures. The following table shows the acreage under artificially-grown grasses in New South Wales during the last ten years. The areas are also given for the north and south coast districts, where the dairying industry is most flourishing :—

| Year ended 31st March. | Area under Artificial Grasses. | | | Year ended 31st March. | Area under Artificial Grasses. | | |
|---|---|---|---|---|---|---|---|
| | New South Wales. | North Coast District. | South Coast District. | | New South Wales. | North Coast District. | South Coast District. |
| | acres. | acres. | acres. | | acres. | acres. | acres. |
| 1892 | 333,238 | 99,203 | 148,434 | 1897 | 384,016 | 105,958 | 152,529 |
| 1893 | 361,280 | 83,820 | 182,025 | 1898 | 376,402 | 102,947 | 150,854 |
| 1894 | 302,412 | 87,681 | 156,408 | 1899 | 348,829 | 109,510 | 140,691 |
| 1895 | 362,578 | 82,078 | 175,184 | 1900 | 378,852 | 128,696 | 164,861 |
| 1896 | 300,862 | 84,982 | 150,761 | 1901 | 422,741 | 147,054 | 173,488 |

Lucerne is grown in considerable quantities on the Hunter River flats, and the cultivation of this fodder is extending throughout the country, principally along the banks of the rivers on the western slope of the Great Dividing Range. The total area under lucerne in 1900–01 was returned at 68,889 acres, of which 37,084 acres were cut for hay, producing 84,505 tons of fodder ; while on the remaining 31,805 acres the crop was used as green fodder for cattle and horses.

## Natural Grasses and Ring-barking.

The area ring-barked and partially cleared for the preservation of the natural grasses as food for stock was returned in 1900–01 at 38,799,694 acres, 18,273,457 acres being on the western slope and Riverina, 11,312,637 acres on the table-land, 2,635,182 acres in the coast districts, and 6,578,418 acres on the western plains. By far the largest area ring-barked was in the pastoral divisions, where additional grazing lands were thus provided for sheep, but in some

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localities the farmers also resort to this method of increasing their pasturage. Where the supply of natural grass thus obtained is meagre, it becomes necessary at times to supplement it with green foods, such as lucerne, sorghum, &c.

## Potatoes.

The cultivation of the potato has progressed very slowly. The year 1894 saw a marked increase in the industry; but the area planted for the season ended 31st March, 1895, viz., 30,089 acres, was the largest recorded up to that time, and the total yield of 86,170 tons represented the best results obtained. The average yield per acre was, however, only 2·83 tons; in the preceding year it was 3·16 tons—a return which had not been reached since the year 1880. Since 1895 the area has fluctuated, but it advanced to 34,968 acres in 1900, falling again, however, to 29,408 acres during the year ended, March, 1901. The total yield of 1895 has not since been reached, although the productions of 1897 and 1900 were not far short thereof. The production for the year ended March, 1901, was 63,253 tons, or an average of 2·1 tons per acre. The mean annual average for the last ten years was 2·5 tons, the maximum being 3·2 tons in 1894, and the minimum 2·1 tons for the season ended March, 1901. At present New South Wales has to make up by importation from the other states a considerable deficiency, which amounted in 1900 to 49,294 tons, or about 38 per cent. of the total consumption for the year.

The following table illustrates the state of the cultivation of potatoes for the quinquennial periods and years given:—

| Period or year ended 31st March. | Area. | Production per annum. | Average yield. |
|---|---|---|---|
| | acres. | tons. | tons. |
| 1863–67 | 13,864 | 36,721 | 2·65 |
| 1868–72 | 15,532 | 39,465 | 2·54 |
| 1873–77 | 14,183 | 42,020 | 2·96 |
| 1878–82 | 16,979 | 49,442 | 2·91 |
| 1883–87 | 14,864 | 39,254 | 2·64 |
| 1888–92 | 19,170 | 52,693 | 2·74 |
| 1893–97 | 26,208 | 72,501 | 2·76 |
| 1890 | 17,551 | 50,096 | 2·85 |
| 1891 | 19,406 | 52,791 | 2·72 |
| 1892 | 22,560 | 62,283 | 2·76 |
| 1893 | 18,502 | 52,105 | 2·81 |
| 1894 | 26,559 | 83,838 | 3·16 |
| 1895 | 30,089 | 85,270 | 2·83 |
| 1896 | 24,722 | 56,179 | 2·27 |
| 1897 | 31,170 | 84,214 | 2·70 |
| 1898 | 23,816 | 55,332 | 2·30 |
| 1899 | 27,978 | 61,900 | 2·21 |
| 1900 | 34,968 | 81,337 | 2·32 |
| 1901 | 29,408 | 63,253 | 2·11 |

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The chief centres of potato cultivation are the counties of Bathurst (principally in the Orange and Carcoar districts), Argyle, King, Sandon, Hardinge, Camden, Clarence, and Durham, and, to a less extent, the other counties of the coast and table-land districts. On the western slope this root-crop is grown to a very limited extent. Its cultivation is, however, capable of very wide distribution throughout the state ; but in many places formerly well known for its production it has been largely displaced by maize and other cereals.

## Tobacco.

Both the soil and climate of New South Wales are well fitted for the growth of the tobacco-plant, but as it demands for its proper cultivation special knowledge on the part of the grower, it is not so largely cultivated as it otherwise might be. In the year ended 31st March, 1864, the first shown in the subsequent table, there were only 534 acres under cultivation, producing 4,851 cwt. of leaf tobacco. In the following years the area largely increased, chiefly in the agricultural districts of Argyle and the Hunter River Valley. Since then tobacco growing has been almost entirely abandoned in the districts where it was first attempted; and though later on it engaged considerable attention in parts of the central, northern, and southern table-lands, the area cultivated in the year 1900 had fallen as low as that of 1864, while the figures for the year ended March, 1901, seem to indicate that the industry has been practically abandoned.

Between the years 1881 and 1889 the area devoted to the cultivation of tobacco was enlarged from 1,791 to 4,833 acres, with a corresponding increase in the yield of leaf. As, however, the local product did not compare favourably with the American leaf, it could not be exported profitably; so that a large proportion of the crop remained upon the farmers' hands, the quantity sold realising very unsatisfactory prices, and many growers consequently abandoned the cultivation of tobacco in favour of other crops. With the accumulation of stocks of leaf, and the fall in the price of the local product, the area under the plant and the resultant yield declined rapidly, and in 1895 the acreage was only 716 and the production 8,132 cwt. In 1896 a great improvement took place, the area under crop increasing to 1,231 acres, and this was more than doubled in the following year, when 2,744 acres, yielding 27,468 cwt. of leaf, were returned—the largest acreage and production since 1890. This area, however, was reduced to 2,181 acres in 1898, with a production of 19,718 cwt., and in 1899 there was a further decrease, the area being only 1,405 acres, and the yield of leaf 12,706 cwt. In 1900 the area was only 546 acres, and the yield 6,641 cwt., while for the year ended March, 1901, the area was only 199 acres, and the

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production 1,905 cwt. The area and production for each year from 1864 to 1901 are given in the following table :—

| Year ended 31st March. | Area. | Production. | | Year ended 31st March. | Area. | Production. | |
|---|---|---|---|---|---|---|---|
| | | Total. | Average per acre. | | | Total. | Average per acre. |
| | acres. | cwt. | cwt. | | acres. | cwt. | cwt. |
| 1864 | 534 | 4,851 | 9·1 | 1883 | 1,815 | 17,540 | 9·7 |
| 1865 | 807 | 4,036 | 5·0 | 1884 | 1,785 | 20,006 | 11·2 |
| 1866 | 1,499 | 7,469 | 5·1 | 1885 | 1,046 | 9,914 | 9·5 |
| 1867 | 1,326 | 2,478 | 1·9 | 1886 | 1,603 | 22,947 | 14·3 |
| 1868 | 627 | 6,035 | 9·1 | 1887 | 1,203 | 13,642 | 11·3 |
| 1869 | 875 | 7,925 | 9·1 | 1888 | 2,371 | 23,465 | 9·9 |
| 1870 | 366 | 3,192 | 8·7 | 1889 | 4,833 | 55,478 | 11·5 |
| 1871 | 225 | 700 | 3·1 | 1890 | 3,239 | 27,724 | 8·6 |
| 1872 | 567 | 4,475 | 7·9 | 1891 | 1,148 | 14,021 | 12·2 |
| 1873 | 440 | 2,751 | 6·2 | 1892 | 886 | 9,314 | 10·5 |
| 1874 | 199 | 1,261 | 6·3 | 1893 | 848 | 8,344 | 9·8 |
| 1875 | 539 | 6,069 | 11·3 | 1894 | 854 | 10,858 | 12·7 |
| 1876 | 491 | 4,098 | 8·3 | 1895 | 716 | 8,132 | 11·4 |
| 1877 | 333 | 2,440 | 7·3 | 1896 | 1,231 | 10,548 | 8·6 |
| 1878 | 399 | 3,049 | 7·6 | 1897 | 2,744 | 27,468 | 10·0 |
| 1879 | 835 | 7,932 | 9·5 | 1898 | 2,181 | 19,718 | 9·0 |
| 1880 | 592 | 6,221 | 10·5 | 1899 | 1,405 | 12,706 | 9·0 |
| 1881 | 1,791 | 19,469 | 10·9 | 1900 | 546 | 6,641 | 12·2 |
| 1882 | 1,625 | 18,311 | 11·2 | 1901 | 199 | 1,905 | 9·6 |

During the year 1900 the consumption of manufactured tobacco and cigars amounted to 3,707,021 lb., of which 2,460,903 lb. were made in the state from 1,558,970 lb. of American leaf and 901,933 lb. of leaf locally grown. The production of leaf for 1900–01 was only 213,360 lb., from which a third may be deducted for damage and waste, and as there can be little or no reserve stocks the quantity left, viz., 142,240 lb., represents not more than one-ninth part of the requirements of the home manufacturers, based on the average used of late years. The season 1901–02 must, therefore, show an increased area and production, or otherwise the usual quantity of locally grown leaf used can no longer be maintained.

In view of the fact that few countries are better favoured than New South Wales with climate and soil necessary for successful cultivation, it is a matter for regret that the industry has not made more satisfactory progress. This has been due partly to the producer and partly to the market. With an improvement in the quality of the leaf, the local consumption could be rapidly overtaken, and the surplus production would then have to be placed on the English or foreign markets, where it would enter into competition with tobacco having a well-established reputation, and a flavour for which continued use on the part of the consumer has created a predilection. That, however, is a question for the future ; there is ample scope for the present in improving the

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quality of the product sufficiently to satisfy the local consumer. An impression has prevailed that it is not possible to produce tobacco of high quality in New South Wales. This probably arose from experience of a product which, possibly, was grown in unsuitable soil, and was characterised by a lack of care in cultivation. The first consideration of the grower seems to have been a heavy yield, the result being a rank, strong, ill-flavoured tobacco. At the Government experimental tobacco farm which was established at Moonbi for a few years, notwithstanding unfavourable seasons and other drawbacks, tobacco of exceptional quality, highly suitable for cigarettes, was grown, some of the leaf realising 1s. per lb. from the manufacturers. There is no doubt that it is possible to grow in the state a tobacco well suited to the English market; and if a regular supply were available, properly fermented and packed, a large trade might be developed.

## SUGAR-CANE.

The first returns in which mention is made of the cultivation of the sugar-cane and the production of sugar in New South Wales date only from 1863–4. In that season 2 acres were recorded as having produced 280 lb. of sugar, and it will appear strange that out of this quantity 220 lb. were stated to be the produce of 1 acre of cane, grown in the northern part of the county of Bathurst, while the remaining 60 lb. were produced on the banks of the Macleay River. The district last mentioned may be considered as the principal seat of the industry during its earlier stages; but it proved to be unsuitable to the growth of the cane, and the risk of failure from frosts compelled the planters to keep more to the north. In a few years the richest portions of the lower valleys of the Clarence, the Richmond, the Tweed, and the Brunswick were occupied by settlers engaged in planting and growing the cane. Mills were erected in the chief centres of cane-cultivation, and cane-growing and sugar-manufacturing are now the principal and best-established industries of the north-eastern portions of the state.

Although frosts are not altogether unknown even on the Tweed, the soil and climate of the valleys of the northern rivers are in most respects well adapted to the successful cultivation of the sugar-cane, and it is confined principally to the valleys of the Richmond, Tweed, and Clarence Rivers. Nearly the whole of the area under crop lies within the counties of Rous, Clarence, and Richmond.

The following table shows the progress of this industry during the last twenty-five years. The figures relating to the area yearly placed under cane are given for earlier dates, but the number of tons produced cannot be ascertained prior to 1877. As sugar-cane is not an annual crop, the area under cultivation has been divided, as far as practicable, into productive and non-productive, the former representing the number of acres upon which cane was cut during the season, and



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the latter the area over which it was unfit for the mill, or allowed to stand for another year:—

| Year. ended 31st March. | Area. | | | Production of Cane. | |
|---|---|---|---|---|---|
| | Productive. | Non-productive. | Total. | Total. | Average per acre. |
| | acres. | acres. | acres. | tons. | tons. |
| 1864 | ..... | ..... | 2 | ..... | ..... |
| 1865 | ..... | ..... | 22 | ..... | ..... |
| 1866 | ..... | ..... | 141 | ..... | ..... |
| 1867 | ..... | ..... | 116 | ..... | ..... |
| 1868 | ..... | ..... | 647 | ..... | ..... |
| 1869 | ..... | ..... | 2,584 | ..... | ..... |
| 1870 | ..... | ..... | 3,917 | ..... | ..... |
| 1871 | 1,475 | 2,607 | 4,082 | ..... | ..... |
| 1872 | 1,995 | 2,399 | 4,394 | ..... | ..... |
| 1873 | 3,470 | 2,001 | 5,471 | ..... | ..... |
| 1874 | 3,565 | 3,105 | 6,670 | ..... | ..... |
| 1875 | 4,087 | 4,453 | 8,540 | ..... | ..... |
| 1876 | 3,654 | 2,800 | 6,454 | ..... | ..... |
| 1877 | 3,524 | 3,231 | 6,755 | 99,430 | 28·2 |
| 1878 | 3,331 | 3,735 | 7,066 | 99,978 | 30·1 |
| 1879 | 2,949 | 4,489 | 7,438 | 104,192 | 35·3 |
| 1880 | 3,675 | 4,102 | 7,777 | 126,119 | 34·5 |
| 1881 | 4,465 | 6,506 | 10,971 | 121,616 | 27·2 |
| 1882 | 4,983 | 7,184 | 12,167 | 128,752 | 25·8 |
| 1883 | 6,362 | 7,176 | 13,538 | 169,192 | 26·6 |
| 1884 | 7,583 | 7,401 | 14,984 | 204,547 | 26·9 |
| 1885 | 6,997 | 10,520 | 17,517 | 105,323 | 15·1 |
| 1886 | 9,583 | 6,835 | 16,418 | 239,347 | 25·0 |
| 1887 | 5,915 | 9,202 | 15,117 | 167,959 | 28·4 |
| 1888 | 8,380 | 6,907 | 15,287 | 273,928 | 32·7 |
| 1889 | 4,997 | 10,284 | 15,281 | 110,218 | 22·1 |
| 1890 | 7,348 | 11,382 | 18,730 | 168,862 | 23·0 |
| 1891 | 8,344 | 12,102 | 20,446 | 277,252 | 33·2 |
| 1892 | 8,623 | 13,639 | 22,262 | 185,258 | 21·5 |
| 1893 | 11,560 | 15,191 | 26,751 | 264,832 | 22·9 |
| 1894 | 11,755 | 16,357 | 28,112 | 252,606 | 21·5 |
| 1895 | 14,204 | 18,705 | 32,909 | 264,254 | 18·6 |
| 1896 | 14,398 | 18,529 | 32,927 | 207,771 | 14·4 |
| 1897 | 18,194 | 12,859 | 31,053 | 320,276 | 17·6 |
| 1898 | 12,936 | 12,929 | 25,865 | 269,068 | 20·8 |
| 1899 | 14,578 | 10,181 | 24,759 | 289,206 | 19·8 |
| 1900 | 9,435 | 13,082 | 22,517 | 170,509 | 18·1 |
| 1901 | 10,472 | 11,642 | 22,114 | 199,118 | 19·3 |

The figures contained in the above table show the gradual progress of the sugar-growing industry from the small beginnings of 1864. From the starting point of this cultivation there was but one single break (that of 1876) in the yearly increase of land put under cane until 1885. During the four succeeding years there was, however, a retrograde tendency, and the area cultivated in 1889 was less by 2,236 acres, or 12·7 per cent., than that cultivated in 1885. The low price of the

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product and the disturbed state of the markets of the world a few years ago forced the sugar-manufacturers to correspondingly reduce the price offered for the cane, and so caused for a time the abandonment of this cultivation by the small farmers, who found in the growth of maize less variable results for their labour.

In 1890 there was an increase in the area under cane of 1,213 acres over the area similarly cultivated in 1885, the year for which, up to that time, the highest acreage had been recorded. From 1890 to 1896 the area increased from 18,730 acres to 32,927 acres, the highest acreage yet recorded, but there has since been a consistent downward tendency, the acreage in 1901 having fallen to 22,114 acres. In 1896–7 the record production of 320,276 tons of cane was obtained; but the average production per acre was only 17·6 tons—with the exception of that of 1895–6 and of 1884–5, the lowest yield returned. The cane disease which has been prevalent, principally on the Clarence, accounts for the low averages during the period 1894–7, while in 1895–6 the crop was also damaged by frost. The crop of 1897–8, from a productive area of 12,936 acres, was 269,068 tons, or an average of 20·8 tons to the acre, which is a slight improvement on the figures of the preceding three years. For the year 1898–9 the total production was 289,206 tons off 14,578 acres, or an average of 19·8 tons per acre. For the year 1899–1900 the productive area was only 9,435 acres, and the yield therefrom 170,509 tons, or an average of 18·1 tons per acre. The area of cane cut during the year ended March, 1901, was 10,472 acres, with a total yield of 199,118 tons, and an average of 19·3 tons per acre. In respect both of area cut and yield therefrom, the figures of the last two seasons are considerably lower than any during the previous seven years.

Sugar-cane is generally cut in the second year of its growth, the fields being replanted after they have given crops for three or four seasons at the most; and, as the planting of cane has been conducted at irregular intervals, it has chanced that seasons of large production have been followed by small crops in the succeeding year. This accounts for the alternately large and small areas of productive cane during many years, as shown in the preceding table. Sugar-manufacturers invariably purchase the year's crop of cane standing and cut it at their own cost. From plantations in full bearing the average weight of the cane cut varies from 25 to 32 tons, while the price paid ranges from 8s. to 13s. per ton. For the season 1900–01 the leading buyer has fixed the price for the standing two-year old cane at 11s. 3d. per ton, The average cost of cutting the cane may be set down at 3s. 3d. per ton.

The county of Rous is now the principal centre of sugar-cane cultivation, containing 595 holdings, covering 13,559 acres, devoted to the production of sugar—an area comprising about three-fifths of the total acreage in the state under cane crops. The yield obtained from 6,392 acres of productive cane amounted to 119,398 tons, showing an average of 18·7 tons per acre. In the county of Clarence there are 489

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holdings on which cane is grown, the aggregate area being 6,331 acres. In this, as in the other sugar-growing counties, the majority of the farmers cultivate sugar-cane in addition to other crops, and only a few estates are entirely devoted to its production. Some planters have areas of 25 to 100 acres in extent under cane, but their number is limited. The yield in the county of Clarence last season was 63,862 tons, or an average of 19·7 tons per acre, cut on an area of 3,283 acres. In the county of Richmond the holdings under sugar-cane number 127, and aggregate 2,123 acres, of which 814 acres were cut, giving a total yield of 15,555 tons of cane, or an average of 19·1 tons to the acre. The total number of holdings on which sugar-cane was cultivated was 1,214.

The consumption of sugar in New South Wales during the year 1900 amounted to 73,208 tons, of which 29,449 tons were the product of the local plantations. The quantity treated at the refineries, including imports, during the twelve months was 59,550 tons. On the estates belonging to the Colonial Sugar Refining Company the conduct of the business has been entrusted to practical men, and no expense has been spared to obtain the most approved and complete plant for the manufacture of sugar. The company's works on the Richmond River are among the most complete in the world, and the sugar manufactured is equal to the best Mauritius and West Indian samples.

### Minor Root Crops.

Among the minor root crops may be mentioned turnips, mangold-wurzel, onions, arrowroot, chicory, and beetroot. In addition to these, according to the agricultural returns collected during the season 1900–01, there were gathered £27,950 worth of miscellaneous crops, cultivated on 1,593 acres; and among these were some small areas, almost insignificant in their independent acreage, upon which is grown almost every agricultural product mentioned in this chapter.

The most important of the minor root crops is that of turnips, which show a total production of 1,739 tons from 350 acres. Mangold-wurzel gave, from 73 acres, 517 tons. Onions, properly speaking a bulb crop, were grown on 307 acres, and the yield was 1,224 tons. Like many other products grown on small areas, onions receive little attention, being apparently regarded more as a "chance" crop, whereas more time and care given to one or two acres of onions would yield a return equal to that of 20 or 30 acres of the usual farm crops. Though the general average yield of onions does not reach 3 tons per acre, good farmers have obtained a yield of 10 or 12 tons, which in the early market have realised as much as £15 per ton. The net importations of onions in 1900 amounted to 111,072 cwt., valued at £21,348; while the local production was only 24,480 cwt., of the value of £5,876. The necessity for importation is certainly not due to the unsuitability of the soil for the cultivation of this vegetable.

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In 1900–01 there were 28 acres under arrowroot, viz., 27 acres in the country of Rous and 1 acre in the county of Richmond on the North Coast. The total value of the yield was returned at £209, or an average of nearly £7 10s. per acre. During the previous season small areas of arrowroot were cultivated in the counties of Sandon and Buller on the northern table-land, in the county of Wellington on the central table-land, and also in the metropolitan county of Cumberland; but the attempt has not been repeated. Excellent results in the cultivation of arrowroot have been obtained at the Wollongbar Experimental Farm, near Lismore. A mill for the treatment of arrowroot has been erected on the Richmond River, and as a result of the cheaper means of preparing the product it is anticipated that the extent and value of the crops will ultimately be increased. During 1900 the net import of arrowroot, chiefly from Queensland, was 173,006 lb., valued at £1,709.

For many years the Sydney market was supplied with chicory grown in the Blayney district, but its cultivation was abandoned for several years until last season, when there was again an area of 110 acres, yielding a crop of 233 tons. Good chicory roots are worth, on an average, £5 per ton, delivered in Sydney. The yield per acre ranges from 8 tons in a favourable season to 1 ton in a very dry season. With irrigation, 6 to 8 tons per acre can be relied on. The amount of roots annually consumed in New South Wales is about 1,000 tons, equal to 160 tons of prepared chicory. In addition to the value of the root as a commercial commodity, it is an excellent forage crop for dairy cattle. The net imports of raw chicory during 1900 amounted to 149,138 lb., representing a value of £908; and of the prepared article to 120,400 lb., of the value of £1,228.

The sugar-beet, the cultivation of which in France and Germany has reached enormous proportions and has become a staple industry, has attracted some attention during late years both in New South Wales and in Victoria. In Victoria the Department of Agriculture made some careful analyses of different varieties of locally-grown beets, with the most satisfactory results. A good beet should show not less than 12·5 per cent. of sugar, but those tested by the Department yielded 14·16, 14·87, 15·25, and 15·61 per cent. respectively. So satisfactory, indeed, did the prospects of establishing the industry in the state appear that the Government passed an Act under which the Treasurer was empowered to advance money on easy terms for the purpose of establishing mills for the production of sugar from beets; and one factory is now in operation.

The results of the tests of roots made in Victoria were, however, greatly exceeded by those furnished by analyses of beets grown in the Tenterfield district of New South Wales. The chemist of the Colonial Sugar Refining Company, at the request of a local beet-grower, made a series of tests, the yield per root from those analysed being respectively 15·66, 16·08, 17·89, 19·51, 19·90, 20·13, 20·33, 20·56,

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22·11, 22·22, and 24·75 per cent. Experts pronounced such yields to be unparalleled in the history of the cultivation of the beet; and there was, in consequence, a movement in favour of testing this branch of agriculture in those districts unsuited to the growth of the cane, special attention being directed to the matter in the Tenterfield district, where the project took practical shape. Experiments have been conducted on an important scale, and with such satisfactory results that efforts have been made with a view to establish a large factory in the New England district in connection with the industry, but so far nothing definite has been decided in this direction. In addition to its value as a sugar product, the sugar-beet is an excellent fodder for dairy cattle, and in the colder parts of the state would be a profitable crop for this purpose. The cost of production in New South Wales is estimated at about £7 12s. per acre, the return being worth approximately £12 16s.

### Lentil Crops.

During the season 1900-01 there were 220 acres under crop to peas and beans, which gave a total yield of 4,040 bushels. The coastal division contained 155 acres devoted to this crop, and the yield was recorded as 3,354 bushels. The northern coast district yielded 30 bushels from 3 acres; the Lower Hunter, 1,704 bushels from 92 acres; the metropolitan county of Cumberland, 469 bushels from 21 acres; and the southern coast district, 1,151 bushels from 39 acres. The area under this crop on the table-land was 24 acres, and the yield 612 bushels; to which the northern district contributed 140 bushels from 3 acres; the central, 385 bushels from 13 acres; and the southern, 87 bushels from 8 acres. The western slope returned only 41 acres, yielding 74 bushels; while on the western plains the crop was not cultivated.

The peas and beans herein described were grown mainly as hard fodder for horses and pigs, and must not be confounded with the peas and beans cultivated in the kitchen and market gardens for table use as vegetables.

In addition to the green peas grown in market-gardens, which are included in market-garden produce, 456 acres were cropped on farms, giving a total yield of 18,473 bushels.

### Gourd Crops.

The area devoted to pumpkins and melons during the season 1900-01 was 4,551 acres, and the yield 15,962 tons. The principal places of cultivation are the maize districts and the metropolitan county. In the coastal district the area was 2,998 acres, and the production 10,855 tons, of which the Lower Hunter gave 3,539 tons from an area of 1,065 acres; the northern counties, 1,036 tons from 316 acres; and the county of Cumberland, 4,733 tons from 1,249 acres. The area under gourd crops on the table-land was 1,402 acres, from which 4,798 tons

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were produced; and on the western slope there were 102 acres which yielded 146 tons. On the western plains there was a small area of 49 acres under this form of cultivation, with a yield of 163 tons.

Pumpkins and melons are grown principally for table use as vegetables, and for jam-making; but they are also used extensively as fodder for cattle and pigs. The number of acres under gourd-vines mentioned above is somewhat below the truth, as crops of pumpkins and melons are sometimes raised in orchards and vineyards between the rows of fruit-trees and vines, and particulars respecting the production are not returned.

## MARKET-GARDENS.

In 1900-01 there were in the state 2,266 holdings, comprising 7,764 acres, cultivated as market-gardens, the average size of each garden being 3·4 acres. The value of the production for the year was set down at £189,448, and the number of persons employed in this branch of cultivation was probably about 7,000, the majority being Chinese; indeed, the market-garden in Australia is seldom termed such, the generic appellation being "Chinese" garden.

The subjoined statement gives the number, area, and value of production of market-gardens in each division of the state :—

| Division. | Market-gardens. | Area. | Value of Production. |
|---|---|---|---|
| Coastal Division— | No. | acres. | £ |
| North Coast | 187 | 474 | 8,090 |
| Lower Hunter | 510 | 1,146 | 18,959 |
| County of Cumberland | 808 | 3,300 | 104,231 |
| South Coast | 150 | 422 | 9,153 |
| Total | 1,655 | 5,342 | 140,433 |
| Table-land Division— | | | |
| Northern Table-land | 95 | 316 | 5,257 |
| Central Table-land | 195 | 793 | 14,072 |
| Southern Table-land | 107 | 347 | 6,867 |
| Total | 397 | 1,456 | 26,196 |
| Western Slopes and Riverina Division— | | | |
| North-Western Slope | 32 | 187 | 4,245 |
| Central-Western Slope | 42 | 231 | 4,270 |
| South-Western Slope | 45 | 257 | 4,932 |
| Riverina | 32 | 103 | 2,572 |
| Total | 151 | 778 | 16,019 |
| The Western Plains | 63 | 188 | 6,800 |
| Grand Total | 2,266 | 7,764 | 189,448 |

One branch of gardening, namely tomato-culture, has not yet received that attention which its importance warrants. The possibilities of a

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large local business, together with an export trade of very considerable magnitude, have not yet been fully grasped. There is an active and continually increasing demand for sauces, jams, and preserves of tomato, and the foreign supply is by no means so good or so cheap as to render competition difficult. In the future, perhaps, areas of many acres in extent will be planted with tomato-vines, as they now are with grape-vines, and numbers of people will be employed in the manufacture of tomato sauce, and in canning the fruit. Both climate and soil are favourable, and tomatoes grown in New South Wales compare to advantage with those produced in their native habitat. As the cultivation entails only light labour, and it is particularly remunerative, the vegetable could be grown by persons unaccustomed to heavier labour on farms, and it is somewhat surprising that the industry should be left so exclusively to the Chinese.

## Vines and Wine Production.

In almost every part of the state, with the exception of the sub-tropical portion and the higher parts of the mountain ranges, grape-vines thrive well, and bear large crops of succulent fruit, equal in size, appearance, and flavour to the most renowned products of France, the Rhinelands of Germany, and Spain. Nevertheless, the vine-growing and wine-manufacturing industries are still in their infancy, though with a growing local demand, and with the opening up of a market in England, where the wines of New South Wales, in common with those of the other Australian states, have obtained some appreciation, the future of grape culture in this country appears to be fairly assured. At present, however, the production of the whole of Australia is comparatively insignificant, as will appear from the following table, showing the vintage of the world for 1900 :—

| Country. | Production. | Country. | Production. |
|---|---|---|---|
| | Gallons. | | Gallons. |
| France and Corsica | 1,485,719,000 | Bulgaria | 74,800,000 |
| Italy | 583,000,000 | Servia | 26,400,000 |
| Spain | 517,000,000 | United States | 31,460,000 |
| Algeria | 119,772,000 | Brazil | 9,460,000 |
| Roumania | 91,300,000 | Australia | 5,500,000 |
| Austria | 70,400,000 | Azores, Canaries, and Madeira | 7,040,000 |
| Hungary | 42,900,000 | Tunis | 5,500,000 |
| Portugal | 138,600,000 | Uruguay | 3,740,000 |
| Russia | 52,800,000 | Cape Colony | 3,300,000 |
| Germany | 79,200,000 | Mexico | 704,000 |
| Turkey and Cyprus | 48,400,000 | Persia | 682,000 |
| Chili | 68,200,000 | Bolivia | 770,000 |
| Argentine Republic | 40,700,000 | | |
| Peru | 48,400,000 | | |
| Switzerland | 34,320,000 | Total | 3,609,867,000 |
| Greece | 19,800,000 | | |

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The vine was planted in the early days of colonisation in New South Wales, but it was not until the year 1828 that vine-growing and wine-making may be said to have been fairly established. In that year Mr. Busby returned from Europe with a large collection of cuttings from the most celebrated vineyards of France, Spain, the Valley of the Rhine, and other parts of the Continent of Europe; and planted on his estate at Kirkton, in the Hunter River district, a vineyard, which has been the nursery of the principal vineyards of the state. Some years afterwards the vine was planted in the Murray River Valley and in other districts, and was found to flourish so luxuriantly that the manufacture of wine received considerable attention. For a time, however, the prospects of this industry seemed very discouraging, and the production considerably diminished, owing partly to the want of a market, and partly to the fact that the wine-makers, many of whom were not vignerons by training, possessed only a limited knowledge of the manufacture of wine, and produced at first an article of inferior and unsaleable quality. In the principal vineyards in the Valleys of the Murray and Hunter Rivers, however, neither pains nor money have been spared to introduce skilled labour, and to put up presses, vats, and other manufacturing appliances of the most approved kinds.

The results of such intelligent treatment became apparent when prizes were awarded to the wines of New South Wales at the Paris Exhibition of 1878, followed by an unbroken series of successes at the Exhibitions of Philadelphia, Sydney, Melbourne, and Amsterdam; and still more recently at the Indian and Colonial Exhibition in London. But nowhere was the general excellence of the wines of the state more fully recognised than at the Bordeaux Exhibition of 1882. There, in the principal centre of the wine trade of the world, some of the wines of New South Wales were classed, by the most competent judges, in the category of *Grands Vins*, and their value fully appreciated and established. Again, at the World's Fair, held in 1893, at Chicago, an international jury of experts pronounced the wines of New South Wales to be equal to many of the finest viticultural productions of the noted wine-growing countries of Southern Europe. The opinion was expressed, however, that the practice of labelling Australian wines with European names was to be deprecated, as they possessed many excellent and distinctive characteristics sufficiently peculiar to justify the adoption of a new and descriptive system of classification.

Notwithstanding the winning of exhibition medals and expert approval, the export of the wines of the state has not yet reached an important figure. Among other causes which retard the acceptance of Australian wines by English markets, may be mentioned the practice of shipping the product at too early an age, and the impossibility of obtaining from the shippers details respecting the vintage of any particular wine. It is, moreover, alleged that when certain shipments of wine arrived in England they were often so badly looked after as to be actually unsound before being shown to the wine merchant.

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Foreign experts find fault also with the method of casking, and recommend the preliminary treatment of wine in Australia, as it is treated in Bordeaux, with cool cellarage, fining, racking, and blending, for two years and a half to three years prior to its leaving the country. No doubt much of the success of New South Wales as a wine-exporting country will depend on the adoption of more advanced methods, the more general employment of European experts in wine-making, and the enterprise of the vignerons in properly advertising their productions and bringing them sufficiently before the notice of the British public.

The total imports of all Australian wines into the United Kingdom, as recorded by the Board of Trade returns for ten years, were as follow :—

| Year. | Gallons. | Year. | Gallons. |
|---|---|---|---|
| 1891 | 382,000 | 1896 | 610,560 |
| 1892 | 461,000 | 1897 | 713,869 |
| 1893 | 555,000 | 1898 | 717,587 |
| 1894 | 399,000 | 1899 | 743,939 |
| 1895 | 613,000 | 1900 | 822,035 |

The possibilities of the wine trade, correlative with an improvement in manufacture, may be appreciated from the following figures, which exhibit in some detail the imports of wine into the United Kingdom during the year 1900. The quantities represent both wine in cask and in bottle :—

| Country. | Gallons. | Country. | Gallons. |
|---|---|---|---|
| France | 5,382,704 | United States | 165,614 |
| Spain | 4,573,598 | Madeira | 70,560 |
| Portugal | 3,861,931 | British South Africa | 7,682 |
| Australia | 822,035 | Other countries | 155,603 |
| Holland | 843,440 | | |
| Germany | 541,961 | Total | 16,803,829 |
| Italy | 378,701 | | |

Vignerons have been much exercised recently with the problem of the pasteurization of wines for export. By this process the wines are submitted to a temperature of from 140° to 150° Fahrenheit, thereby fixing the characteristics of the product and annihilating the destructive germs that lead to its deterioration, while making it impossible for them to re-invade it; but hitherto the experiments in this direction have been only tentative.

It will be seen from the preceding table that the export of the wines of New South Wales, does not seem to give very encouraging results;

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in fact, the trade is a very small one, and decreased from 54,143 gallons in 1891 to 23,042 gallons in 1898. During 1899 the quantity exported was 32,749 gallons, but for the year 1900 it had fallen again to 28,324 gallons. The quantity sent last year to the United Kingdom direct amounted to only 2,177 gallons, or 15,764 gallons less than that exported in 1893, when the export was 17,941 gallons. During some years a considerable quantity of wine is sent away in wood from the Albury and Riverina districts to Victoria, presumably for shipment at Melbourne. In 1891, when the export of the wine produced in New South Wales amounted to 54,143 gallons, the trans-Murray consignments totalled 38,548 gallons of the quantity exported. This interstate export afterwards dwindled to insignificant proportions, but is again becoming noticeable, while the direct shipments to Europe from the other parts of the state are declining.

In the following table will be found particulars of the export trade in wine locally produced, for the five years extending from 1896 to 1900:—

| Country. | 1896. | 1897. | 1898. | 1899. | 1900. |
|---|---|---|---|---|---|
| | gallons. | gallons. | gallons. | gallons. | gallons. |
| United Kingdom | 6,394 | 3,253 | 3,992 | 3,553 | 2,177 |
| Victoria | 5,636 | 7,846 | 3,745 | 13,503 | 3,221 |
| New Zealand | 1,934 | 2,364 | 4,469 | 6,702 | 12,820 |
| India and Ceylon | 442 | 1,150 | 858 | 976 | 318 |
| Queensland | 1,881 | 2,536 | 4,535 | 3,464 | 4,395 |
| South Sea Islands and Fiji | 3,496 | 3,243 | 2,998 | 2,313 | 3,513 |
| British New Guinea, Singapore, Java, the Philippine Islands, the Straits Settlements, and Siam | 595 | 649 | 921 | 1,013 | 777 |
| Tasmania, South Australia, Western Australia, and Norfolk Island | 2,020 | 1,955 | 1,299 | 789 | 264 |
| New Caledonia, Marshall Islands, New Britain and Caroline Islands | 2 | 6 | 10 | 184 | 314 |
| Japan, China, and Hong Kong | 26 | 636 | 207 | 218 | 110 |
| France, Belgium, Germany, Italy, and Norway | 1,743 | 282 | 8 | 14 | 15 |
| Canada and the United States | 8 | 14 | ..... | 4 | ..... |
| Egypt, South Africa, and the Mauritius | ..... | 2 | ..... | 16 | 400 |
| Total | 24,177 | 23,936 | 23,042 | 32,749 | 28,324 |

During the year ended the 31st March, 1862, the wine produced in New South Wales measured 85,328 gallons; in 1871, the production

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reached 342,674 gallons; in 1881 it had increased to 602,007 gallons; in 1891 to 842,181 gallons; and in 1893 it reached 931,542 gallons, which is the highest production obtained, and exceeds the yield of the season ended March, 1901, by 21,917 gallons, though the area in the latter season was greater by 388 acres. Vignerons consider 250 gallons per acre a good yield, but the average yield for New South Wales reached this figure only in one year since the establishment of the industry, viz., in 1876, when the average yield per acre was recorded as 263 gallons. The following statement shows the progress of the industry since 1862, and the mean average yields for the four decennial periods ending with 1901:—

| Year ended 31st March. | Total area under vines. | Area under vines for wine-making only. | Production. | | Year ended 31st March. | Total area under vines. | Area under vines for wine-making only. | Production. | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Total. | Average per acre. | | | | Total. | Average per acre. |
| | acres. | acres. | gallons. | galls. | | acres. | acres. | gallons. | galls. |
| 1862 | 1,130 | 562 | 85,328 | 152 | 1885 | 4,584 | 2,405 | 442,612 | 184 |
| 1863 | 1,460 | 795 | 144,888 | 182 | 1886 | 5,247 | 2,876 | 555,470 | 193 |
| 1864 | 1,641 | 880 | 136,976 | 156 | 1887 | 5,840 | 3,131 | 601,897 | 192 |
| 1865 | 1,849 | 945 | 161,299 | 171 | 1888 | 6,745 | 3,292 | 666,382 | 202 |
| 1866 | 2,126 | 1,243 | 168,123 | 135 | 1889 | 7,072 | 3,596 | 805,813 | 225 |
| 1867 | 2,281 | 1,358 | 242,183 | 178 | 1890 | 7,867 | 3,603 | 688,685 | 191 |
| 1868 | 2,532 | 1,483 | 285,283 | 192 | 1891 | 8,044 | 3,896 | 842,181 | 216 |
| 1869 | 3,117 | 1,917 | 412,587 | 215 | 1892 | 8,281 | 3,846 | 913,107 | 237 |
| 1870 | 3,907 | 2,039 | 460,321 | 226 | 1893 | 8,264 | 4,146 | 931,542 | 225 |
| 1871 | 4,504 | 2,371 | 342,674 | 145 | 1894 | 7,875 | 4,130 | 748,929 | 181 |
| 1872 | 4,152 | 2,466 | 413,321 | 168 | 1895 | 7,577 | 4,475 | 731,683 | 164 |
| 1873 | 4,090 | 2,568 | 451,450 | 176 | 1896 | 7,519 | 4,390 | 885,673 | 202 |
| 1874 | 4,547 | 3,183 | 578,985 | 182 | 1897 | 8,061 | 4,608 | 794,256 | 172 |
| 1875 | 4,308 | 3,077 | 684,258 | 222 | 1898 | 8,083 | 4,490 | 864,514 | 193 |
| 1876 | 4,459 | 3,163 | 831,749 | 263 | 1899 | 8,078 | 4,573 | 845,232 | 185 |
| 1877 | 4,457 | 3,217 | 799,709 | 249 | 1900 | 8,278 | 4,602 | 739,668 | 160 |
| 1878 | 4,183 | 3,027 | 708,431 | 234 | 1901 | 8,441 | 4,534 | 891,190 | 197 |
| 1879 | 4,237 | 3,024 | 684,733 | 226 | | | | | |
| 1880 | 4,266 | 3,091 | 733,576 | 237 | Average for 10 years ended March, 1871... ... | | | | 179 |
| 1881 | 4,800 | 2,907 | 602,007 | 201 | ,, for 10 years ended March, 1881.. ... | | | | 218 |
| 1882 | 4,027 | 2,597 | 513,688 | 198 | ,, for 10 years ended March, 1891... .. | | | | 204 |
| 1883 | 4,448 | 2,629 | 543,596 | 207 | ,, for 10 years ended March, 1901... ... | | | | 191 |
| 1884 | 4,378 | 2,560 | 589,604 | 230 | | | | | |

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The above figures show that the wine industry has very considerably increased during the period under review, the total area planted being now 8,441 acres, or seven and a half times what it was in the year 1862, when it stood at 1,130 acres, from 562 acres of which grapes were gathered for wine-making, yielding 85,328 gallons, as compared with 891,190 gallons from 4,534 acres last season. The years 1876, 1877, 1878, 1880, 1884, and 1892 show the best average yields. The total number of vineyards in 1900-01 was 1,832. The average area of each vineyard was 4·6 acres; and the area planted with vines still in an unproductive state was 1,218 acres.

In connection with the wine-making industry, there was, during the season 1900-01, a manufacture of 11,170 gallons of brandy, which was not, however, distilled for consumption as such, but for the purpose of fortifying wines.

The wine industry is hampered in its development by such drawbacks as phylloxera vastatrix, oidium, anthracnose, caterpillars, and other pests. Phylloxera has caused some damage in the vineyards of Victoria, seriously threatening the stability of the industry, and necessitating stringent legislative measures. It has appeared also in some vineyards in the Camden, Seven Hills, and Parramatta districts, but so far without causing any great destruction, although some alarm exists among wine-growers touching its development in the future. The knowledge that this pest has obtained a foothold in the state, however slight it may be, has certainly stopped investment in vineyard properties, and has greatly damped the enthusiasm of those interested in the wine trade. At present the afflicted areas are confined to isolated patches, but this is quite enough to cause the gravest apprehension. A commission was appointed a few years ago to report on the appearance of the disease and the best means of preventing its spreading throughout the vineyards of the state. The prohibition of the importation of vine-cuttings from abroad has been in force for some time, and the destruction of infested vineyards has been carried out under the direction of the Vine Diseases Board; but vignerons recommend direct legislative action under a more stringent Act than that at present in operation.

In order to advance the interests of the wine-growing industry in New South Wales, experts advise the restriction of the choice of vines to a few well-tried and sound varieties, careful fermentation, and preservation as far as possible of constant types of wines, attractive bottling, and a price-list sufficiently moderate to ensure the sale of a good product. A comprehensive Wine and Fruit Pest Act, and a strictly enforced Food Adulteration Act, are also deemed necessary; and, for the purpose of perfecting the knowledge of vignerons in the manufacture of wine, it is suggested that a College of Viticulture, on a basis similar to that of the Agricultural College, should be established for the purpose of imparting suitable training to intending wine-growers. Meanwhile, the desire of the Government to extend the application of the most scientific methods in connection with wine-making and the general

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cultivation of the vine, and to successfully combat the phylloxera disease, has led to the appointment of an expert from one of the European Viticultural Colleges. Under his direction inspectors have been constantly engaged vigorously dealing with infected vineyards, and as a further protection, a large quantity of phylloxera-resistant cuttings has been obtained from France for use as stocks in planting vineyards. It does not appear that the most determined efforts to eradicate this insect in other countries have met with much success, and there is no promise of better results here. The most effective plan seems to be to destroy the diseased vineyards and to renew with resistant stocks.

### Table-Grapes and Raisin-Fruits.

The culture of grapes is not restricted to the production of fruit for the purposes of wine manufacture only, for a considerable area is devoted to the cultivation of table-grapes, particularly in the neighbourhood of Sydney, and in Ryde, Parramatta, and other districts of Central Cumberland. The extent of country devoted to this branch of the industry in 1892–3 comprised 2,211 acres, with a production of 5,916 tons of grapes, giving an average of 2·7 tons of fruit per acre. In 1900–01 the area yielding table-grapes had increased to 2,689 acres, but the average yield was only 1·6 tons per acre, giving a total production of 4,214 tons of fruit.

So far no effort has been made in New South Wales to prepare raisin-fruits for foreign consumption, although there is an undoubted possibility of a large export trade in this direction. In Victoria and South Australia, settlements have been founded at Mildura and Renmark for the purpose of cultivating, drying, and preserving fruit on a large scale, both for local and export trade, as in California, where the lands are artificially irrigated, and the efforts of nature are seconded by the discoveries of modern science. The products of experiments made in drying grapes and currants of Australian culture have met with success in the London markets, and experts have declared the articles to be of the highest quality. New South Wales is, perhaps, even more favourably situated for the prosecution of this industry than either of the sister states, and with the extension of settlement, and the falling out of cultivation of such products as are more cheaply grown in other parts of the world where the climate is more suited to them, the building up of a large export trade in raisins, muscatels, dried currants, figs, and other products peculiar to Greece and the islands of the Levant may confidently be expected.

### Citrus Fruits.

The cultivation of the orange and the lemon has become one of the principal industries of the districts surrounding the metropolis. The first orange groves were planted near the town of Parramatta, and soon

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spread to the neighbouring districts of Ryde, Pennant Hills, Lane Cove, the whole of Central Cumberland, the valleys of the Hawkesbury and Nepean Rivers, and the slopes of the Kurrajong Mountains.

Statistics relating to this branch of fruit culture are available only from the year 1879. At that date the area under oranges and lemons was recorded as 4,287 acres; this had increased in 1901 to 14,965 acres, the productive area being 11,013 acres, with a yield amounting to 6,486,000 dozens of oranges. In 1893, from a productive area of 8,661 acres, nearly 10½ million dozens of oranges were obtained; but the last few seasons have been unfavourable to the orchardists. It is estimated that over 3,000 dozens of fruit to the acre can be obtained in an average season from fair sized trees in full bearing, and it is therefore probable that the figures returned by the growers include the production of a considerable number of young trees. The number of orangeries cultivated during the year 1900–01 was 1,905, and of these the average area was over 7·8 acres. The state of the industry in each year since 1879 is shown in the subjoined statement:—

| Year ending 31st March. | Area of Orangeries. Acres. | Year ending 31st March. | Area of Orangeries. Acres. |
|---|---|---|---|
| 1879 | 4,287 | 1891 | 11,288 |
| 1880 | 5,106 | 1892 | 11,370 |
| 1881 | 5,939 | 1893 | 11,158 |
| 1882 | 6,301 | 1894 | 11,967 |
| 1883 | 6,716 | 1895 | 12,204 |
| 1884 | 7,268 | 1896 | 11,956 |
| 1885 | 6,911 | 1897 | 12,490 |
| 1886 | 7,733 | 1898 | 13,943 |
| 1887 | 7,920 | 1899 | 14,389 |
| 1888 | 8,875 | 1900 | 14,533 |
| 1889 | 10,851 | 1901 | 14,965 |
| 1890 | 9,804 | | |

The production of oranges has already attained such proportions that the growers are obliged to seek markets abroad for the disposal of their crop, as the demand, both in New South Wales and in the adjacent states, is in some seasons exceeded by the supply. Efforts have of late been made to open up a market in England, as the fruit can be delivered in London at a time when the supply of oranges from Spain and other countries of the northern hemisphere has ceased. An experimental shipment of New South Wales oranges was made by the Board of Exports in the course of 1896, the result being generally regarded as very satisfactory. The fruit was landed in London in the month of September, when the market was rather bare, the season for Denia and Valencia oranges—which form the chief supply of the metropolis—beginning about the middle of October and lasting till the end of June. The packing was generally good—the appearance of the fruit which was well and firmly packed in white paper was declared to be satisfactory; but the agents in whose hands the shipment was placed for disposal recommended the use of tissue paper only for packing, and the avoidance of soft shavings, sand, and pumice dust. Of the 1,740 cases,

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15 were taken in the hold of the mail steamer "Ophir," and these opened unsatisfactorily. The remaining 1,725 cases were carried in the cold-storage chambers of the vessel, and the freight was consequently very high, averaging for the whole shipment 3s. 11d. per case. Despite this heavy charge, however, a net profit of £143 10s. 7d. was cleared on the transaction, equal to a return of 14·7 per cent. The fruit cost £487 10s. 6d.; freight amounted to £343 13s. 4d., and other charges to £168 12s. 1d.; making a total sum of £999 15s. 11d., which was reduced to £968 4s. 7d. by returns from the sale of culls, etc. The oranges realised £1,195 15s. 6d., from which amount a sum of £84 0s. 4d. was deducted for commission and charges in London, leaving the proceeds at £1,111 15s. 2d., or, as already stated, £143 10s. 7d. in excess of the total cost.

Encouraged by the success of this shipment by the Board of Exports, business on a much larger scale was attempted by merchants during 1897, about 36,000 cases being shipped by various steamers during the season; but from some cause, as yet imperfectly ascertained, no less than four out of six cargoes were found to have suffered damage to such an extent that serious losses were incurred. From the report of the expert who superintended the unpacking, and who speaks in strong terms of the conditions under which the fruit was carried, the inference is that proper care was not taken with the cargoes, and that heating and decay ensued as the result of subjection to wrong temperature. The condition of the fruit also pointed to careless handling on the part of senders, on whom it may be impressed that it is quite useless to send to London any other than first-class fruit, properly cut, cured, and handled, and carried at a temperature low enough to prevent premature ripening and consequent rapid decay. During the year 1898 about 30,000 cases were exported to London, but the results were unsatisfactory. In 1899 and 1900 only a few experiments were made. The fact has been established, however, that under proper conditions New South Wales growers can land fruit in England in good order, but until the fruit is more judiciously selected and better packed, and it is found practicable to carry it in perfectly dry and cool chambers, it is to be feared that the exportation will be abandoned.

The export of oranges, in view of the possibilities of a large trade with England, may be said to be in its infancy. Generally speaking, the trade with the other states has not met with very great success, owing to imperfect sweating and bad packing. Experts declare that in curing citrus fruits for export, the shrinkage is not more than from 15 to 25 per cent., and that to pluck crops in June and July and so treat them not only relieves the tree of a burden of fruit during the period when another yield is preparing, but obviates the glutting of the local market with the ripened product. If the fruit is suffered to hang until December, the strain on the tree is excessive, and its vitality is seriously impaired. It is, moreover, stated that the neglect on the part of growers of citrus

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fruits in New South Wales to pull and prepare the early product has resulted in the lemons grown in this state being driven out of the markets of Victoria and New Zealand by cured Sicilian and Mildura varieties. The stringent regulations enforced by all the states with the object of preventing the introduction of fruit pests have militated against the inter-state trade, but the permission now given to land oranges which have been treated with the fumes of hydrocyanic acid has again opened the ports, and with the eradication of the insect and fungoid pests an era of prosperity may be opened up to fruit-growers.

Efforts are now being made to establish co-operative cordial factories, with the object of making orange wines and liqueurs from the windfalls and wasty fruits; and if measures be taken to handle the fruit for market on co-operative lines also, and to have the curing, grading, and packing done under expert supervision, the future of the trade will be assured, especially if the worn-out trees be gradually replaced with better stocks, and due consideration given to systematic methods of cultivation and fertilising. It is hoped also that in time there may be established, in connection with the orangeries of New South Wales, manufactories for the preparation of candied citron, orange, and lemon peels, as well as of oils and essences of citrus fruits. The crystallisation of mandarins may likewise be an industry of profitable future prosecution; and with the introduction and acclimatisation of the Seville orange there should be no reason why Sydney should not rival Dundee in the production of marmalade. Unfortunately, the proverbial antagonism of the Briton to the culture of any fruit, cereal, or fabric-plant unknown to the climatic zone of his native land, has hitherto injuriously operated against the introduction of many vegetable staples which experiment and experience have amply demonstrated would flourish luxuriantly in Australia.

## Orchards and Fruit Gardens.

For some years past there has been but little increase in the acreage under orchards and fruit-gardens. In 1889–90, the year when orchards and land under cultivation to dessert and other fruits, exclusive of orangeries and vineyards, were first distinguished from gardens devoted to the cultivation of vegetables and general market-garden produce, the total area so tilled amounted to 18,867 acres, and of this area 7,167 acres were situated in the metropolitan county of Cumberland. In the agricultural year ended 31st March, 1901, the area similarly cultivated amounted to 31,269 acres, showing an increase during the last ten years of 7,239 acres. The increase since 1890 is 12,402 acres. The area under orchards and fruit-gardens in the county of Cumberland, including both productive and unproductive holdings, is now 14,151 acres, or an increase of 6,981 acres on the figures of 1890. Notwithstanding this



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advance, the fruit-production of New South Wales is still far behind the demands of local consumption. The state is, therefore, obliged to import large quantities, the greater portion of which could be successfully grown within its own boundaries. Leaving out of the question the considerable importations of tropical fruits from Fiji, the South Sea Islands, and Queensland (and some varieties could most certainly be cultivated in the tropical portion of New South Wales), the introduction of fruit from abroad is still greatly in excess of the moderately-estimated possibilities of local production.

The following table shows the area under orchards and fruit-gardens, exclusive of orangeries and vineyards, together with the total value of each year's yield, for the period during which statistics relative to this cultivation have been collected :—

| Year ended 31st March. | Area of Productive Fruit-gardens and Orchards. | Area of Fruit-gardens and Orchards not bearing. | Total area cultivated for Fruit-gardens and Orchards. | Total value of the Production of Fruit-gardens and Orchards. | Approximate average value per acre. |
|---|---|---|---|---|---|
| | acres. | acres. | acres. | £ | £ s. d. |
| 1890 | 14,342 | 4,525 | 18,867 | 185,012 | 12 18 0 |
| 1891 | 16,081 | 6,274 | 22,355 | 213,934 | 13 6 0 |
| 1892 | 16,606 | 7,424 | 24,030 | 211,790 | 12 15 0 |
| 1893 | 18,117 | 8,163 | 26,280 | 229,425 | 12 13 0 |
| 1894 | 19,330 | 7,663 | 26,993 | 197,374 | 10 4 0 |
| 1895 | 21,465 | 8,258 | 29,723 | 175,473 | 8 3 0 |
| 1896 | 20,635 | 8,145 | 28,780 | 130,735 | 6 7 0 |
| 1897 | 24,031 | 8,524 | 32,555 | 159,715 | 6 13 0 |
| 1898 | 23,965 | 7,054 | 31,019 | 155,534 | 6 10 0 |
| 1899 | 24,564 | 7,174 | 31,738 | 158,678 | 6 9 0 |
| 1900 | 25,258 | 6,458 | 31,716 | 159,950 | 6 7 0 |
| 1901 | 25,766 | 5,503 | 31,269 | 270,081 | 10 10 0 |

From the foregoing table it will be seen that from 1890 to 1893 both the total value and the average per acre ranged from £12 to £13 ; but commencing with the season ended March, 1894, there is a considerable decline, which continued up to the year 1900. For the year ended March, 1901, however, the total value was the highest during the period under review. The season showing the highest average value per acre is that of 1891. The mean average annual value for the decennial period 1892–1901 is £8 8s. per acre. The subjoined statement shows the amount of acreage of the productive area under fruit-gardens and orchards for each year of the period under notice, the acreage added from

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year to year from areas previously not bearing, and the new land placed under this form of cultivation during each season :—

| Year ended 31st March. | Productive area of Fruit-gardens and Orchards, from preceding year. | Area added from Fruit-gardens and Orchards previously unproductive. | Total Productive Area. | Area of Fruit-gardens and Orchards not bearing, remaining from previous year. | New land put under cultivation to Fruit-gardens and Orchards. | Total area not bearing. | Total area under cultivation to Fruit-gardens and Orchards. |
|---|---|---|---|---|---|---|---|
| | acres. | acres. | acres. | acres. | acres. | acres. | acres. |
| 1890 | 13,592 | 1,050 | 14,342 | 2,010 | 2,515 | 4,525 | 18,867 |
| 1891 | 14,342 | 1,739 | 16,081 | 2,786 | 3,488 | 6,274 | 22,355 |
| 1892 | 16,081 | 525 | 16,606 | 5,749 | 1,675 | 7,424 | 24,030 |
| 1893 | 16,606 | 1,511 | 18,117 | 5,913 | 2,250 | 8,163 | 26,280 |
| 1894 | 18,117 | 1,213 | 19,330 | 6,950 | 713 | 7,663 | 26,993 |
| 1895 | 19,330 | 2,135 | 21,465 | 5,528 | 2,730 | 8,258 | 29,723 |
| 1896 | 21,465 | *830 | 20,635 | 8,258 | *113 | 8,145 | 28,780 |
| 1897 | 20,635 | 3,396 | 24,031 | 8,145 | 379 | 8,524 | 32,555 |
| 1898 | 24,031 | *66 | 23,965 | 8,524 | *1,470 | 7,054 | 31,019 |
| 1899 | 23,965 | 599 | 24,564 | 7,054 | 120 | 7,174 | 31,738 |
| 1900 | 24,564 | 694 | 25,258 | 7,174 | *716 | 6,458 | 31,716 |
| 1901 | 25,258 | 508 | 25,766 | 6,458 | *955 | 5,503 | 31,269 |
| Total | ..... | 12,474 | ..... | ..... | 10,616 | ..... | ..... |

* Gone out of cultivation.

From the figures just given it will be seen that 12,474 acres have been added to the productive area from the area previously unproductive, during the period, while only 10,616 acres of new land have been put under cultivation.

For the year 1900 the value of the imports of bananas, principally from Queensland, the New Hebrides, and Fiji, amounted to £64,837 ; of pine-apples, nearly all of which came from Queensland, to £6,007 ; of other green fruit, mostly from Tasmania, to £202,930 ; of dried and candied fruit—including currants and raisins (£117,259), dates (£17,265), cocoanuts and other edible nuts—to £180,469 ; and of bottled fruits and fruit boiled or in pulp, to £23,641 ; or a total for the year of £477,884. From this must be deducted the value of the re-exports of foreign-grown fruits from New South Wales during the same period ; and this amounted to £33,829, including green fruits of various kinds to the value of £13,245. The value of the importations of foreign-grown fruit for consumption in New South Wales during 1900 was, therefore, £444,055. The corresponding figure for the year 1899 was £357,264 ; for 1898, £296,015 ; for 1897, £343,111 ; for 1896, £320,200 ; and for 1895, £219,153. The export of locally-grown fruit during 1900 amounted in value to £92,243, which was almost wholly made up of green fruit, the chief customers of the state being Victoria, Queensland, and New Zealand. The value of the domestic production for the agricultural season 1900-01, including oranges and grapes for table use,

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may be set down at £410,155; the value of the net imports for the year was £351,812. The value of the net imports for the year 1899 was £259,855; for 1898, £163,175; for 1897, £252,888; for 1896, £220,108; and for 1895, £150,167. The total consumption of fruit for the year 1900 was, therefore, valued at £761,967. The state's contribution of fruit to its own wants was valued at £318,000.

If to the results just given be added the net imports of jams and jellies, ginger, and other canned fruits and preserves of foreign production, the balance of exchange in fruit commodities will be further modified. The net imports of these commodities may be set down for 1895 at £15,790; for 1896 at £31,408; for 1897 at £33,959; for 1898 at £30,177; for 1899 at £43,962; and for 1900 at £41,773. Taking these into account the imports for local consumption of all fruits and fruit products, fresh, dried, canned, candied, preserved, boiled, in pulp, and bottled, would amount, in 1895, to £165,957; in 1896, to £251,516; in 1897 to £286,847; in 1898 to £193,352; in 1899 to £303,817; and in 1900 to £393,545—a sum which is far too large, in view of the state's natural resources both of soil and of climate. It must be admitted that the fruit-growing capabilities of this state have not yet been developed to anything like the extent which they merit. Large quantities of fruit are imported annually from countries the characteristics of whose soil and climate are practically identical with those of portions of New South Wales. It might, indeed, be very reasonably urged, that with some few exceptions the whole of the fruit imported for local consumption should be produced within the boundaries of the state.

Fruit-growers, however, may look beyond the prospect of supplying the country's requirements in fruit products with those locally grown. The success which has attended the export of fruit from Tasmania has shown orchardists in this state that they may find it more profitable to grow with a view of exporting to England than to place their product in a glutted market at home; and it needs only a few successes in London to cause a development of the trade. During the past few years the dried fruits prepared at Mildura have made a good impression in England, and demonstrated the possibility of profitable trade, provided all the primary conditions of careful curing and packing are scrupulously and undeviatingly fulfilled. Victoria has recently opened up an experimental exportation of apples to Java and Singapore; and shippers in the neighbouring state consider that they have discovered an ideal packing material in the shredded bark of the tea-tree, which has been used also with great success as a packing medium for passion-fruit, consignments of the latter having reached London in an excellent state of preservation. There are, indeed, great possibilities in the matter of an export trade in fruit, not from New South Wales alone, but from the whole Commonwealth, when shippers have learnt how to dry and pack their consignments in such a manner as to ensure soundness and preservation of flavour during the voyage. At present, in common with wine-growing,

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the fruit industry has suffered, not so much from lack of foreign appreciation and interest, as from the inexperience of those engaged therein.

The subjoined table shows the productive, non-bearing, and total area under cultivation to dessert, table, and preserving fruits, exclusive of grapes, oranges, and lemons, together with the total value of the season's returns, and the average value of the yield per acre, arranged according to the geographical divisions into which the state has been divided for purposes of comparison :—

| Division. | Productive Area. | Area not yet bearing. | Total Area. | Total Value of Production. | Average Value per Acre. |
|---|---|---|---|---|---|
| | acres. | acres. | acres. | £ | £ s. d. |
| Coastal Division— | | | | | |
| North Coast | 357 | 126 | 483 | 4,575 | 12 16 0 |
| Lower Hunter | 1,989 | 417 | 2,406 | 20,664 | 10 8 0 |
| County of Cumberland | 12,160 | 1,991 | 14,151 | 156,610 | 12 17 0 |
| South Coast | 2,143 | 640 | 2,783 | 24,391 | 11 8 0 |
| Total | 16,649 | 3,174 | 19,823 | 206,240 | 12 8 0 |
| Table-land Division— | | | | | |
| Northern Table-land | 1,319 | 324 | 1,643 | 7,606 | 5 15 0 |
| Central Table-land | 3,515 | 942 | 4,457 | 26,912 | 7 13 0 |
| Southern Table-land | 2,307 | 456 | 2,763 | 15,507 | 6 14 0 |
| Total | 7,141 | 1,722 | 8,863 | 50,025 | 7 0 0 |
| Western Slopes and Riverina Division— | | | | | |
| North-Western Slope | 118 | 10 | 128 | 655 | 5 11 0 |
| Central-Western Slope | 549 | 143 | 692 | 4,130 | 7 10 0 |
| South-Western Slope | 1,159 | 390 | 1,549 | 7,846 | 6 15 0 |
| Riverina | 81 | 38 | 119 | 710 | 8 15 0 |
| Total | 1,907 | 581 | 2,488 | 13,341 | 7 0 0 |
| The Western Plains | 69 | 26 | 95 | 475 | 6 18 0 |
| Grand Total | 25,766 | 5,503 | 31,269 | 270,081 | 10 10 0 |

Of the total area under fruit-orchards in New South Wales, nearly two-thirds are situated in the coastal belt, and about one-half in the metropolitan county of Cumberland. The total area under fruit of all kinds in New South Wales is 54,675 acres. Of this extent of land, 31,269 acres are under orchard fruits, 14,965 acres are under citrus fruits, and 8,441 acres are under grape-vines.

## Floriculture.

Statistics regarding this branch of agriculture have not yet been collected, although there are numerous nurseries, besides private gardens, in the metropolitan county, in which flowers, plants, and ornamental

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trees and shrubs are cultivated purely in the interests of commerce. The climate of Sydney is warm and humid, and splendid varieties of hydrangeas, orchids, azaleas, pelargoniums, bouvardias, gladioli, chrysanthemums, dahlias, gloxinias, rhododendrons, and many other species of decorative flora, are cultivated with success. The coastal bush lands, and the valleys of the Hawkesbury and its different reaches, are explored for variegated, tree, and stag-horn ferns, and their sale forms an active part of the metropolitan horticulturist's business. Such denizens of the forests and ridges as the tiger-lily, the waratah, the stenocarpus, the flannel-flower, the Star of Bethlehem, the Christmas-bush, the wattle-blossom, and the Christmas-bell are gathered by itinerant flower-vendors and hawked at the corners of streets, besides being procurable in the nurseries and shops of florists.

Recently flowers have attracted attention as the basis of an industry similar to that carried on in the Channel Islands and in different parts of France and Germany, viz., flower-cultivation for the manufacture of scent—an industry, however, like others mentioned in this chapter, which awaits development in a more or less distant future. The extraction of perfumes, however, received attention in New South Wales as early as the year 1862, when excellent samples were made and sold in Sydney; and that the floral products of the state have long been deemed suitable for this purpose is shown by the fact that in 1870 Dr. Piesse, of the celebrated French firm, offered premiums, which were placed at the disposal of the London Society of Arts, for seven years, for the production of otto of bergamot, otto of roses, and of enflowered butter or fat, from certain of the British possessions, Australia being one of the countries mentioned. There was, however, no response from these states to this offer. About twelve years ago Dr. Piesse paid a visit to Sydney, and, with the view of obtaining a supply of material for the business of his firm, spent some time in an attempt, both on the platform and in the press, to start the industry. He also travelled in Victoria, and on his return home kept the matter alive by occasional letters to the newspapers. In all probability, the establishment of the perfumery farm at Dunolly, in Victoria, still a going concern, was partly the result of his mission. This farm extends over 50 acres, and was taken up by a resident of the district who is a native of France. Dr. Piesse has asserted that not only could New South Wales grow all the kinds of flowers produced in Europe, but could also produce perfumes, new, distinct, and exquisite. The matter was taken up by the Department of Agriculture some time ago, and experiments were conducted at the Hawkesbury College. Very satisfactory results were obtained, but owing to work of a more pressing nature the operations were discontinued. The principal plants capable of treatment are, Fennel, Wild Thyme, Tansy, Wild Mint, Peppermint, Lavender, Verbena, Rosemary, Mignonette, Geranium, Cassia, Pennyroyal, Violet, Jonquil, the Bergamot and other Orange trees, and many others. "Neroli oil," according to Dr. Piesse one of the most delicious and

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costly oils, is obtained from the blossom of the sweet orange, so generally cultivated in this country. It is quite probable that in due time the perfume industry will be developed in New South Wales, but in view of the rapidly increasing tendency to manufacture from chemicals, it is doubtful whether the extraction of scents and perfumes from flowers will attain particular importance. The net importations of perfumes and perfumed waters into the state during the year 1900 were valued at about £18,000.

It is matter for deep regret that the state's beautiful native flora is being gradually destroyed. It now contributes at annual displays to the reduction of the debts on churches and other institutions; and the coast-slopes and the bush-lands in the neighbourhood of every town are periodically denuded to furnish attractions to local flower-shows and charity bazaars, the well-meaning decorators of which, not content with merely plucking the blooms they require for their floral designs, tear them out by the roots, and create a waste where there was formerly a garden.

With many agriculturists the sun-flower has lately become quite an established crop. The seed or grain is highly valued as food for poultry, and for this purpose the average return during last season was as high as £15 per acre. Oil can also be extracted from the seed, but for this there is at present no demand. The plant can be successfully grown in all parts of the State, and as it requires little attention beyond keeping the crop clean it is very remunerative.

## VEGETABLE OILS AND ESSENCES.

Besides the preparation of eucalyptus oil and essence, dealt with in the chapter on forestry, and the probabilities of the establishment of an industry of flower-culture for the making of scents, referred to in the preceding section of this chapter, there are a number of as yet undeveloped branches of manufacture of vegetable oils and essences, capable of almost indefinite prosecution. Chief of these are the culture of the olive, the castor-oil plant, and linseed. Oil of lemons and essence of lemons have already been touched upon in that part of this chapter which treats of citrus fruits, and, therefore, require no further reference here.

Little has been attempted in New South Wales in the culture of the olive, which not only yields a particularly valuable oil, but the fruit of which, as a pickle, constitutes a highly profitable article of commerce. In the future, however, its cultivation will be stimulated by a growing local demand. In South Australia, where the olive is rapidly becoming a staple, and where considerable areas have been placed under the trees, 10s. a gallon for the oil has been received by the growers. The soil and climate of New South Wales, in districts where the range of temperature is similar to that of the olive-growing countries which border the

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Mediterranean, should be no less favourable to the culture than the soil and climate of South Australia; in fact, they are claimed by some enthusiasts to be even, in certain respects, superior to the latter. In regard to what has been attempted locally, it may be mentioned, that by way of encouraging this industry, the Agricultural Department has had planted at the Murrumbidgee Experimental Farm 3 acres of olive slips as a nursery whence young trees may be supplied to persons desirous of essaying their culture. There are also a number of acres planted with olives at the Pera Bore, and a few acres at the Native Dog Bore. Occasionally an application for trees is received by the Department of Agriculture, but none are available yet for distribution, and applicants are in the meantime referred to South Australia.

The castor-oil plant *(Ricinus communis*, or *Palma Christi)* grows luxuriantly in the humid coastal districts of the state. The average annual consumption of castor oil in Australia during the five years 1896–1900 was about 469,000 gallons, of which 217,000 gallons represented the requirements of New South Wales. It is largely used for lubricating purposes, but owing to a growing preference recently for mineral oils the consumption of castor oil appears to be diminishing, the total for Australia having fallen from 641,000 gallons during the year 1898 to 474,000 gallons in 1899, while the quantity imported during 1900 was only 346,000 gallons. Nearly the whole of the supply is derived from India, and, as showing the general falling off in the consumption, the total export from India to all parts of the world was only 1,254,000 gallons during 1900, as compared with 1,747,000 gallons in the year 1898. The average wholesale price of the oil in Sydney is about 2s. 8d. per gallon. The initial cost of establishing the industry would be heaviest in the item of machinery for expressing the oil, although the price of labour would also have to be considered carefully, as the Calcutta oil is produced at a minimum outlay in this particular. Oil can be separated from the seeds of the *Palma Christi* also by boiling in water, but though the largest quantity can thus be procured, the resultant product is apt to become rancid, a disability to which the expressed oil is not liable; hence expression of the seeds is now the process most commonly followed in the manufacture.

One of the most valuable of crops is the flax (*Linum usitatissimum*), and it is matter of surprise that more persistent efforts have not been made to acclimatise it in New South Wales. The plant not only yields "lint" of two kinds—namely, the long fibre called "flax" and the short fibre called "tow"—but a valuable seed also, of the greatest use as a fodder for cattle, in the form of oilcake, of which it forms the chief ingredient; for medicinal purposes; and, above all, for the manufacture of the raw and boiled oils of commerce, known as linseed oil, which form the bases of all paint-mediums. The value of this plant can hardly be exaggerated. There is always a good demand for flax fibre, whether it be long line or coarse tow, and a lint crop is always disposable. New

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Zealand flax-fibre brings at the present time about £17 per ton in the Sydney market; and raw linseed oil, from 2s. 6d. to 2s. 9d. per gallon. The plant will grow and return satisfactory results in any district where wheat will grow or has been grown successfully, and it is an admirable rotation crop. It is most favourably cultivated in dry lands, in districts fairly free from frosts, which retard its progress and stunt its growth. In country where water is scarce, fibre may be obtained from the flax-plant suitable for cordage, and lint or tow adapted to the manufacture of carriage cushions, by a process known as "dry-rotting," in which the dews and the sunshine are utilised to disintegrate the stalks. In the following table is given a list of the net imports in 1900 of various commodities which might easily be supplied, with perhaps one or two exceptions, by locally-grown flax and hemp crops:—

| Commodity. | Value. |
|---|---|
| | £ |
| Linseed oil | 48,476 |
| Linseed | 1,855 |
| Canvas | 87,474 |
| Cordage and rope | 67,238 |
| Flax and hemp | 47,900 |
| Fibre | 5,514 |
| Total.....£ | 258,457 |

With the increase of population, and the development of the dairy-farming and shipping interests, the demand for linseed and the various products of the flax-plant is bound to grow. The industry has made great progress in India, the Argentine Republic, and the United States. The import of linseed into the United Kingdom during 1900 amounted to 1,666,031 quarters, valued at £4,162,146; and of linseed cake, 187,420 tons, valued at £1,395,916. Hemp (*Cannabis sativa*) could also be successfully acclimatised in New South Wales. It is supposed to be a native of India, but it has long since been acclimatised and extensively cultivated in Italy, Russia, Poland, and America. With so large a range of habitat the difficulties of its introduction to this state cannot be laid to the charge either of soil or of climate.

Another article of import which might, perhaps, be locally produced is that of cotton-seed oil, of which in 1900 the state imported 80,910 gallons, valued at £8,635; but though the quantity appears small, extensive domestic production would mean an increased application of the product.

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Indigo (*Indigofera tinctoria*) is a plant the future of the cultivation of which in New South Wales is looked forward to with some expectation by those who have studied its possibilities in its new habitat. There is in the state a wild plant (*Indigofera australis*), from which it was hoped tinctorial juice might be obtained; but experiments have hitherto proved unsuccessful. The true plant which supplies the indigo of commerce is found wild in Queensland, and there is no reason why it should not be acclimatised in New South Wales; indeed, experiments are now being conducted with a view of establishing it as a regularly cultivated crop. Indigo yields the drug from which the beautiful dye bearing its name is obtained, by maceration in water.

## Hops.

Hops are but little cultivated in New South Wales, although a few very small crops are picked in the neighbourhood of Orange. In Victoria, Tasmania, and New Zealand, however, they are successfully grown, the product being but little inferior to the celebrated Kentish hops of England. In the opinion of experts they could also be successfully grown in New South Wales, which imported during 1900 no less than 799,595 lb. of hops, valued at £35,995. The plant will grow in a temperate climate, free from hot winds in the summer; although frosts in winter are beneficial, particularly in nipping the growth of young shoots, and thus forcing the vitality of the plant into the bines and fruit during their proper season. Plantations of hops should be established in the close neighbourhood of townships and villages, in order to secure the labour of women and children in tying up bines, and branching and picking the hops when ripe. The districts specially adapted for the cultivation of the hop-plant are Armidale, Orange, Goulburn, and Cooma.

## Failure of Crops.

The total area affected by partial or complete failure of crops during the agricultural year ended March, 1901, amounted to 300,120 acres. Droughts were responsible for failures on 192,617 acres, 126,091 of which were under cultivation to wheat for grain, 33,081 under wheat for hay, 15,807 under maize, 14,025 under oats for hay and grain, and 1,089 under potatoes, while smaller crops also suffered. Rabbits and hares ravaged 32,259 acres, mostly under wheat; hailstorms partially destroyed 20,293 acres of wheat and other grain and fruit crops; bush fires swept over an area of 17,488 acres of grain crops; locusts ravaged 9,723 acres; floods and excessive rains caused partial or complete destruction of over 6,283 acres; frosts affected 3,802 acres; rust and blight appeared on 1,151 acres; while 1,001 acres, chiefly under wheat, suffered from the depredations of vermin. Causes not specified were responsible for losses on 15,503 acres, principally under grain, hay, and fruit crops. The following table shows the area affected by failures from

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various causes, with the proportion to total acreage under cultivation for each of the last seven years :—

| Causes. | Acreage Affected. | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1894-5. | 1895-6. | 1896-7. | 1897-8. | 1898-9. | 1899-1900. | 1900-01. |
| | acres. | acres. | acres. | acres. | acres. | acres. | acres. |
| Drought | 31,342 | 228,154 | 110,346 | 250,795 | 819,622 | 376,995 | 192,617 |
| Flood | 23,250 | 8,898 | 126 | 2,100 | 487 | 1,021 | 2,917 |
| Excessive rains | 19,843 | 696 | 347 | 2,151 | 197 | 567 | 3,366 |
| Rabbits and hares | 6,179 | 1,458 | 4,441 | 1,009 | 161 | 561 | 32,259 |
| Rust | 2,559 | 690 | 216 | 73 | 210 | 1,635 | 637 |
| Hailstorms | 1,769 | 1,895 | 1,338 | 1,717 | 72 | 4,191 | 20,293 |
| Blight | 1,475 | 620 | 5,753 | 234 | 57 | 1,373 | 514 |
| Bush-fires | 451 | 264 | .... | 2,268 | 550 | 383 | 17,488 |
| Vermin | 294 | 118 | 215 | 164 | 262 | 3,180 | 1,001 |
| Frosts | 252 | 3,563 | 2,449 | 737 | 2,629 | 19,449 | 3,802 |
| Locusts | 17 | 243 | 6 | 701 | 352 | 26,273 | 9,723 |
| Causes not specified | 8,774 | 1,607 | 2,423 | 16,851 | 1,188 | 4,263 | 15,508 |
| Total | 96,205 | 248,296 | 127,660 | 278,800 | 825,787 | 439,896 | 300,120 |
| Proportion of total cultivated area. | Per cent. 7·25 | Per cent. 18·41 | Per cent. 7·71 | Per cent. 15·36 | Per cent. 37·41 | Per cent. 18·00 | Per cent. 12·27 |

It will be seen from the above statement that the worst season experienced during the last seven years was that of 1898–9, when no less than 37·41 per cent. of the total area under cultivation in the state was affected by failure of crops, while the most favourable return was obtained in 1894–5, when failure resulted on only 7·25 per cent. of the total cultivated area. It must be borne in mind that the damage varies in degree, as well as in area affected, as will be seen by comparing these figures with those given in the table on page 297, showing the average yield of wheat.

Continuously for the last six years, and notably during the seasons ended March, 1899 and 1900, large areas have suffered severely from the effects of drought, and it speaks well for the capabilities of the soil that, despite such drawbacks, the mean annual average yield per acre of the principal crop, wheat, has been 9½ bushels per acre. Floods and excessive rains were responsible for failures over a large area in 1894–5, but there has been comparatively slight loss from these causes since that year. Rabbits and hares wrought great havoc during the three years 1895 to 1897, and it is probable that much of the loss attributed solely to drought during the next three seasons should be set down to the ravages of these animals. For many years the crops have been comparatively free from rust and blight. In 1894–5 rust appeared as a result of excessive rains, on 2,559 acres, but since then, with the exception of 1,635 acres, during the season 1899–1900, the losses occasioned by this disease have been small. Blight appeared on about 6,000 acres during 1896–7, and on 1,373 acres in 1899-1900. During the year ended March, 1901, the losses resulting from hailstorms and from bush-fires were very heavy, affecting nearly 38,000 acres. Throughout the

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previous six years the destruction resulting from these disastrous agencies was fortunately light. As before noticed, the losses occasioned by frosts were very serious during 1899–1900, when over 19,000 acres were thus affected, but during the other years of the period the average annual area damaged was not more than 2,000 acres. Locusts are responsible for heavy losses during the last two seasons, more than 26,000 acres being attacked in 1899–1900, and nearly 10,000 during the last season. During the five years prior to 1900 there was comparative immunity from this plague. Vermin have also been troublesome during the last two seasons. The average annual losses from causes unspecified during the period 1895–1901 has been about 7,200 acres. The smallest area thus returned was 1,188 acres in 1898–9, and the largest 16,851 acres in 1897–8, the area returned for 1900–01 being 15,503 acres.

Below will be found a statement showing the area under each crop affected by failure during the last seven years :—

| Description of Crop. | 1894–5. | 1895–6. | 1896–7. | 1897–8. | 1898–9. | 1899–1900. | 1900–01. |
|---|---|---|---|---|---|---|---|
| Grain Crops— | acres. | acres. | acres. | acres. | acres. | acres. | acres. |
| Wheat | 53,732 | 111,754 | 68,866 | 167,813 | 599,797 | 290,219 | 206,755 |
| Maize | 22,724 | 28,100 | 6,783 | 20,011 | 17,029 | 13,506 | 23,012 |
| Oats | 1,229 | 4,065 | 791 | 2,333 | 6,734 | 1,595 | 2,286 |
| Rape | 197 | 117 | 79 | 14 | 1,361 | 622 | 8 |
| Barley | 330 | 1,805 | 509 | 616 | 747 | 651 | 1,451 |
| Millet | 75 | 130 | 48 | 165 | 41 | 56 | 32 |
| Rye | 13 | 123 | 12 | 326 | 245 | 330 | 236 |
| Total | 78,300 | 146,094 | 77,088 | 191,278 | 625,954 | 306,979 | 233,780 |
| Hay Crops— | | | | | | | |
| Wheaten | 6,145 | 54,536 | 35,022 | 45,855 | 150,249 | 116,829 | 44,246 |
| Oaten | 4,978 | 32,427 | 7,681 | 30,714 | 37,679 | 5,897 | 15,561 |
| Lucerne | 1,444 | 2,602 | 1,811 | 3,173 | 6,664 | 4,015 | 1,061 |
| Barley | 87 | 546 | 210 | 404 | 237 | 114 | 35 |
| Total | 12,654 | 90,161 | 44,724 | 80,146 | 194,229 | 126,855 | 60,913 |
| Root Crops— | | | | | | | |
| Potatoes | 830 | 1,921 | 582 | 1,434 | 1,203 | 707 | 1,488 |
| Onions | 25 | 78 | 22 | 71 | 30 | 34 | 10 |
| Turnips | 7 | 29 | 21 | 20 | 53 | 44 | 32 |
| Mangold-wurzel | 3 | 10 | 5 | 2 | 13 | 3 | 3 |
| Total | 865 | 2,038 | 630 | 1,527 | 1,299 | 788 | 1,528 |
| Sugar and Tobacco Crops— | | | | | | | |
| Sugar | 2,586 | 3,400 | 1,771 | 793 | 404 | 405 | 1,055 |
| Tobacco | 92 | 141 | 8 | 282 | 165 | 20 | ... |
| Total | 2,678 | 3,541 | 1,779 | 1,075 | 569 | 425 | 1,055 |
| Fruit Crops— | | | | | | | |
| Grapes | 439 | 532 | 683 | 428 | 413 | 1,213 | 487 |
| Oranges | 79 | 552 | 221 | 572 | 132 | 180 | 68 |
| Other fruits | 654 | 3,615 | 1,904 | 2,816 | 1,677 | 2,776 | 1,590 |
| Total | 1,172 | 4,699 | 2,808 | 3,816 | 2,222 | 4,169 | 2,145 |
| Kitchen Garden Produce, &c.— | | | | | | | |
| Pumpkins and melons | 370 | 487 | 196 | 188 | 258 | 352 | 196 |
| Produce of market gardens | 145 | 1,103 | 402 | 553 | 443 | 200 | 352 |
| Peas and beans | 9 | 136 | 25 | 44 | 95 | 90 | 109 |
| Total | 524 | 1,726 | 623 | 785 | 796 | 642 | 557 |
| All other Crops | 12 | 37 | 8 | 173 | 728 | 38 | 142 |
| Grand Total | 96,205 | 248,296 | 127,660 | 278,800 | 825,787 | 439,896 | 300,120 |

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The season 1898–9 shows the heaviest losses in wheat and oat crops and in lucerne and turnips, while maize, barley, millet, potatoes, sugar-cane, orchards, orangeries, onions, gourd crops, and market gardens suffered most during 1895–6, grapes during 1899–1900, and tobacco in 1897–8.

## SERICULTURE.

In the early days of the history of New South Wales, attention was drawn to the question of sericulture, and experiments have been carried on intermittently ever since by various persons, chiefly however as a hobby rather than for purposes of trade. Silk cultivation, amongst other things, was contemplated by the Australian Agricultural Company, as is evidenced by their original prospectus, issued in 1825. Sir Thomas Mitchell, in 1831, speaks of the magnificent mulberry trees of thirty-five years' growth in the garden of Mr. John Macarthur, at Parramatta. In 1845 the rearing of silkworms was tried on a small scale with complete success; and in 1848 a sericultural farm was established at Eastwood, near Ryde, but lack of capital, and want of knowledge of the proper species of tree, brought failure to this project. As early as 1862 the industry was commenced in the Richmond River district, but attention was mainly directed to the production of eggs, or "graine." Another important attempt at sericulture in New South Wales was made on a private estate at Corowa, but it was found that the dust which came in quantities from a wide highway adjacent caused such deterioration to the trees as to render the leaf unfit for food. From 1875 to 1883 experiments on a large scale were carried on at Lavington, near Albury, but here again the enterprise was unfortunate: the whole of the worms were carried off by the disease known as "pebrine," and in 1883 operations were discontinued. In this case diseased graine was said to have been imported, although at the time there was in the state an excellent supply which could not be surpassed elsewhere. It is also asserted that the trees were not of the variety best suited for feeding the worms.

Notwithstanding the fact that, after repeated attempts, the establishment of the silk industry in the state on a profitable basis has not yet been accomplished, the hope of ultimately making it of importance is still strong; and when it is remembered that the history of silk culture in almost every country has been similar to the experience of New South Wales, this hope is not unreasonable. Introduced into France in the 13th century, it made little progress until the year 1521; and though in Italy Florence early became a centre of the silk trade, it was only after the cultivation of the mulberry by the peasantry had been made compulsory. It is not, however, to be inferred that the difficulties are as great now as then. The reason why silk-growing has not become a commercial enterprise is principally due to the fact that so far there has been no pressing necessity for the occupation. One thing appears certain, that none of the failures can be attributed to the cost

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of labour. It is asserted on excellent authority that the rearing of silkworms can be done at less cost in Australia than in Italy. The settlers in New Italy found to their great surprise that the time from hatching to spinning occupies about eight days less here than in Italy, and that the worms require less food; also that the yield of leaf is heavier, a two-year old tree in New South Wales giving 12 lb. of leaf, and in Italy only 3 lb. In Italy the production of 1 lb. of cocoon requires 25 lb. of leaf, whereas 20 lb. is sufficient here. It is in the north-eastern coastal districts that sericulture has been most successful, and recent developments point to that settlement as one from which there are great expectations. The most profitable kind of silkworms are those known as "annuals," which produce the cocoon only once, become moths, lay eggs, and die. There are others known as "bi-voltines" and "tri-voltines," which, as their designation indicates, produce two or three crops; but the silk is inferior, and the yield less.

On the Tweed River the mulberry tree yields very abundantly, furnishing daily supplies of the leaf from the end of July until the following April. It is in the extension of the plantation of white mulberry trees that the real growth of the sericultural industry must be looked for. Where the soil and climate are known to be favourable, there is no reason why farmers engaged in other cultivation should not make this an auxiliary crop, by means of which, with proper knowledge, the females of their families could derive a fair income. From 2 to 5 acres would be sufficient for this on good average soil. As a rule, one person could attend to the crop of 2 acres. The trees should be planted about 90 to the acre in really good soil, inferior land requiring from 100 to 150 to produce an equivalent result. To estimate the yield of leaf with any degree of accuracy is very difficult—it varies so much according to the soil, the plant, the knowledge brought to bear by the grower, and the attention given to cultivation; but taking a medium soil, with 120 trees to the acre, it may reasonably be expected that a tree two years old will give 12 lb. of leaf for each rearing, or 1,440 lb. to the acre. Reckoning 20 lb. of leaf to produce 1 lb. of cocoon, and the value of the cocoons at 1s. per lb., this would mean £3 12s. per acre for one rearing—less than two months' work. The maximum yield of the tree is about 36 lb., which it would attain in five years. Although, in a state of maturity, 100 trees to the acre is sufficient on good land, some growers put in double the number, in order to get a larger supply of leaf while the plantation is young, reducing the number by thinning out as the trees get larger.

On a more extensive scale, the question of labour would be different, and expenses greater, than when the industry is carried on by a family as a subsidiary occupation; but, on the other hand, exclusive attention would be productive of higher results, and it may be pointed out that there is not the fear of disappointment from climatic causes, or from fluctuation in values, which attends the cultivation of other crops. In Italy the co-operative system, by which a grower of leaf and a rearer of

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worms share results on terms mutually agreed upon, is common; in some cases the leaf grower also supplies the eggs, or the worms just hatching ready for rearing by the second party. A breeder of experience in New South Wales advises the rearing for graine and rearing for silk being separately carried on by different persons. Probably the attempt to combine the two operations has contributed to the failure in this state. For each rearing or "family" the average quantity of graine is 2 oz., which contain about 80,000 eggs. With due care the loss will not be much over 5 per cent., and assuming that 75,000 cocoons are obtained, and that a little less than 400 cocoons go to the lb., the total yield of cocoon silk from each rearing is nearly 200 lb.

In 1890 steps were taken by the Government to assist the settlers in New Italy in the development of sericulture. Loans of money, at 5 per cent. interest, were made to the settlers to the amount of £608; trees and cuttings were distributed; an area was cleared and prepared for a plantation and nursery at which a silk-rearing house was to be erected, and an officer was appointed to conduct all operations and transactions; but the proceedings were subsequently abandoned. Later on, a silk station was established at Booral, near Newcastle; but this has now passed into private hands. The rearings of silkworms at this place have, until the present season, been considerable, and the cocoons of raw silk have proved of excellent quality. Samples of the products were forwarded to Sir Thomas Wardle, President of the Silk Association, who reported that the cocoons seemed excellent, and the raw silk practically perfect, adding that if this silk could be produced in any quantity there would no doubt be a very good sale for it.

The total value of cocoons reared in France and Italy annually is from £10,000,000 to £13,000,000, and the value of raw and manufactured silk imported into the United Kingdom during 1900 was £2,066,000.

## COFFEE.

In the north-eastern and semi-tropical portions of New South Wales the coffee-plant has been proved to thrive in perfection; and although so far its growth has not been made a commercial venture, for many years the product has been privately used by growers in the Clarence and Richmond districts. Some twelve years ago, in a report on these districts, attention was called to the remarkable yield of coffee trees which had been planted here and there by some of the settlers; and recently interest in the matter has been revived, an experienced coffee planter, who had been for some time in Ceylon, being authorised by the Minister for Agriculture in 1898 to visit the districts referred to and report upon their suitability for coffee-growing as a commercial enterprise. It was feared that the frosts occasionally experienced even so far north would be detrimental to the success of the industry; but this fear was dissipated, and the report to the department, on the Richmond, Clarence, and

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Tweed districts, stated that the soil and climate were all that could be desired, as were also the specimens of coffee trees which were to be seen there, these being strong, healthy, and well-grown, and in many instances laden with crops. It was surprising, the report stated, that the industry had not progressed beyond the experimental stage.

Although the plant has been grown in a haphazard manner, and by persons not sufficiently acquainted with the proper methods of cultivation, the results obtained have been remarkable. From three fine trees on a farm at Belambil, about 13 miles from Murwillumbah, the yield—weighed by the expert making the report—was 18 lb., or, allowing 1 lb. for parchment skin, 17 lb. of clean coffee—over 5 lb. per tree. On another farm the trees bear at the rate of 4 to 7 lb. per tree. A return of 5 lb. per tree would give about 53 cwt. per acre, or—at £4 per cwt. in London—coffee to the value of more than £200. On the coffee plantations in Ceylon, 1 lb. per tree—1,200 trees to the acre—or just over 10 cwt. per acre, is considered a heavy crop. From a private estate at Grafton, where, contrary to the practice on plantations, the trees have been allowed to grow to their full height—12 to 14 feet—the household, as well as many of the friends of the grower, has been supplied with coffee for some time. The trees in the districts visited by the expert have been growing for years, and there are no signs of leaf-disease or any kind of blight. As there is evidence that there will be a considerable demand shortly for coffee plants, a nursery has been prepared at the Wollongbar Experimental Farm, and a small area has also been laid out as a plantation. Similar preparations have been made by a farmer at Terranora. Opposite Chatsworth Island a cultivator, who has been getting heavy crops off a few trees for the last eight or ten years, has now a plantation of 1,000 trees, which have been bearing for several seasons. The latest yield is more than 6 lb. per tree, and the grower has no difficulty in disposing locally of all the coffee he makes. He also purchases from other growers, giving 10d. per lb. for beans. Near Byron Bay a new plantation of over 20 acres has lately been established.

As there are considerable variations in the prices of coffees on the European markets, due to the manner in which the different consignments have been cured, and as in Ceylon considerable experience is required of the person in charge of a plantation, it is obvious that the successful development of this industry will demand great care in its initial stage. It has been suggested that the Government should establish a plantation near Grafton, and another on the Tweed, for the purpose of instructing the growers; but as the impression is gaining ground that coffee-growing will prove remunerative, the industry will probably not need this assistanse. Of course the employment of coolie labour in Ceylon makes the cost of production very much lower than it could possibly be in New South Wales; but, on the other hand, this would be counterbalanced by the heavier yields. Small plantations of say 5 acres could be worked without machinery, but larger plantations

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require pulping machinery, fermenting and washing cisterns, etc. A disc pulper sufficient for a crop of 25 or 30 acres can be purchased and laid down for about £17. The number of plants put in is about 1,200 to the acre, and for pulping and washing the crop a water supply should be available. The net importations of raw coffee into New South Wales during 1900 amounted to 657,976 lb., valued at £18,187; and 56,839 lb. of prepared coffee was imported to the value of about £3,532. The use of coffee in Australia is not general; but it may be stated that the total value of raw coffee imported into the United Kingdom in 1900 was £2,541,357, more than one-third of which was retained there for consumption.

## Cotton.

It is believed that the cultivation of cotton will eventually develop into an important industry in this state, although, so far, little attention has been given to the subject. Its successful cultivation is not a matter of speculation, as there is ample proof that the soil and climate of extensive districts in New South Wales are suitable for the purpose; and the question whether the industry can be carried on with fair remuneration does not appear to be doubtfully regarded by persons qualified to express an opinion. That it has not been grown for commercial purposes is most probably owing to ignorance of the proper method of procedure, as well as to the fact that agricultural labour has found sufficient demand in connection with other crops. On the Paterson, Clarence, and Richmond Rivers, at Rooty Hill in the county of Cumberland, and at the Campbelltown State Nursery trials have proved satisfactory, and at the artesian bores, on the inland plains, excellent results have been obtained. The cotton tree is essentially a sun-plant, requiring a dry climate during the fruiting season, with a moderate fall of rain in its early growth, and it is this condition which makes New South Wales so suitable for its cultivation. It has been proved to thrive here when other crops have succumbed to drought, and samples of cotton submitted to the test of strength and length of staple have compared well with the best American article.

Reference has already been made to cotton-seed oil. The residual meal therefrom ought to find a ready sale in the dairying districts, being considered a most nutritious food for cattle, the butter and milk from dairy cows fed upon it being of superior quality.

## Ramie or Rhœa Fibre.

Ramie or rhœa fibre, the strongest and most beautiful of vegetable fibres, is adapted for a greater variety of purposes than any other fibre known. The plant thrives in this country, and at the Wollongbar Experimental Farm there is an area of 6 acres planted. A considerable quantity of the fibre grown here has been treated during the past two or three years by means of Faure's decorticator, an appliance used for the



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purpose of freeing the fibre from a peculiar gummy matter, the extraction of which previously presented much difficulty. Some time ago, in response to a request from the Agent-General, a supply of ramie ribbons was sent to England for treatment under a newly discovered process of gumming, and the report received from the company which has the control of this process was satisfactory. Considerable interest has been aroused regarding the fibre, and many applicants have been supplied with plants in various parts of the state, where it is likely to do well. It is believed that the cultivation of ramie will ultimately prove a commercial success in New South Wales, especially in the warm coastal regions, where it thrives in great luxuriance and necessitates very little labour, but at present the operations at Wollongbar do not show a yield anything like that obtained in Singapore and other foreign places. The fibre is of excellent quality, but not of sufficient length. It remains to be seen whether experiments elsewhere may not be more successful. From the inner bark of young plants a fine delicate fibre, from which superior fabrics are manufactured, is obtained, while the outer portions are suitable for rope-making, cordage, and sail-cloth. It is believed that China would prove a market for the raw product.

## Cork.

The cork tree grows to perfection in the Sydney Botanic Gardens, and there is evidence that its general cultivation would be successful. Good cork trees were grown in Parramatta many years ago; and some trees, from which cork was cut for use by the fishermen, were once growing at Westbush, now a part of Paddington. The Orange district, and localities of similar climate and soil, are distinctly favourable to the cultivation of the cork tree, and should the industry be initiated, it is confidently asserted that its failure would not arise from inability to produce the material. Where the olive and the orange flourish the cork-tree also thrives; and the climate of Spain, which produces the bulk of this article of commerce, has in great measure its counterpart in New South Wales. The value of the net importations of this material into New South Wales during 1900 was £16,082.

## Poultry Farming.

Besides the casual barn-door fowls that run in the stack-yards of most farms, the produce of which is devoted chiefly to family consumption, many agriculturists make a special business of rearing and breeding fowls, both for egg-production and for the table; others, again, are poultry-farmers pure and simple, who give all their time and energies to the industry; while yet a third class, to be found only in the immediate neighbourhood of the larger towns, and most of them in

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the metropolitan county of Cumberland, make of the breeding of selected and pure-strain types of birds a study, which meets with its reward in the prize pens of agricultural shows.

It is now several years since an exact estimate was made of the number of poultry in the state. Adjusting the figures to the present year, the number of the principal kinds would be approximately as follows:—

| | |
|---|---|
| Fowls | 3,367,000 |
| Ducks | 341,000 |
| Turkeys | 249,000 |
| Geese | 103,000 |

The number of persons keeping poultry is about 129,000; but, as may be surmised from the figures just given, the great majority of poultry-keepers own but few birds.

The annual production of eggs reaches about 103,300,000; but this quantity is not quite sufficient for local consumption, as there is generally an import, which in 1900 amounted to 574,000 dozen. The eggs which are imported are principally from South Australia, for consumption in the Broken Hill district. The annual consumption of poultry may be approximately set down at 2,200,000 fowls, 304,000 ducks, 221,000 turkeys, and 83,000 geese.

The export of frozen game and poultry from New South Wales, though small, is increasing, the value of the produce sent away in 1889 and 1890 being £39, in 1892 over £300, in 1894 nearly £700, in 1898 nearly £8,000, in 1899 about £5,300, and in 1900 nearly £8,400. The bulk of this export consisted of game; but there are indications that with proper knowledge on the part of poultry-farmers an export trade of some magnitude might be built up. The drawback to the industry is that it is often attempted by inexperienced persons whose efforts frequently result in failure. In view of the fact that the English market is practically unlimited during five months of the year, and that many consignments have been spoken of as "the best that come into Britain from any part of the world," remunerative results may be regarded as assured. During the past season chickens sent from here to London realised as high as 3s. and 4s. each, and ducklings about the same. What can be done by knowledge of the business may be seen in one of the suburbs of Sydney, where an extensive duck farm, producing 10,000 to 15,000 ducks annually, has been established in the course of the last few years.

## Ensilage.

Although the value of ensilage as fodder for cattle is generally acknowledged, this valuable method of preserving green foods is not so extensively practised as it should be in a country liable to long periods of dry weather, as is the case with New South Wales. The

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development attained by the industry has been so slight that an extended notice is not called for; it may suffice to say that the use of silos is confined chiefly to the South Coast district and the table-land, and has not yet extended to the western slope of the mountains, or to the western plains, where it would seem to be most required. During the year ended 31st March, 1897, the total production of ensilage was 13,498 tons from 108 silos, the number of silos being more than double that of the previous year, and the production nearly four times as great; but in 1898 the quantity made was only 3,959 tons, in 1899, 3,953 tons, in 1900, 3,936 tons, and for the year ended March, 1901, 6,854 tons.

## Bee Farming.

The industry of honey production has acquired sufficient importance in New South Wales to deserve notice in these pages. Hives are not only kept on many of the farms devoted to general agriculture, but there are also a certain number of establishments of which the sole business is the production of honey and beeswax. Most of the latter are to be found in the Blue Mountains, near the main Western Line of railway, in the neighbourhood of other main trunk lines, and in the districts surrounding the metropolis. The annual yield of honey in New South Wales for the last eight years was 45 lb. per hive, for the last five years 52 lb., and for the last three years it was as high as 55 lb. This is a higher yield than is obtained in Europe or America. In Greece the average is 10 lb.; in Denmark, 20 lb.; in Russia, 18 lb.; in Belgium, 25 lb.; in Holland, 25 lb.; in France, 24½ lb.; in Germany, 27½ lb.; in Austria, 25 lb.; and in the United States, 21½ lb. Some very large yields have been obtained in New South Wales. At Wattle Flat in one season 22½ tons of honey were obtained, being an average of 750 lb. per colony. From less than 70 hives 4,500 lb. were extracted in one week, and in a single day no less than 900 lb. The number of hives in New South Wales, and the production of honey and wax for the past eight years, are shown in the subjoined table.

| Year ended 31st March. | Hives. | | Production. | | Average Yield of Honey per Hive. | Total Value of Production. |
|---|---|---|---|---|---|---|
| | Productive. | Unproductive. | Honey. | Wax. | | |
| | No. | No. | lb. | lb. | lb. | £ |
| 1894 | 44,693 | 8,790 | 1,139,557 | 39,242 | 25·5 | 16,100 |
| 1895 | 35,685 | 13,355 | 1,135,128 | 29,326 | 31·8 | 15,500 |
| 1896 | 27,392 | 10,350 | 1,123,209 | 27,520 | 41·0 | 14,200 |
| 1897 | 32,557 | 9,343 | 1,378,039 | 31,842 | 42·3 | 18,150 |
| 1898 | 38,017 | 15,174 | 1,876,719 | 48,747 | 49·4 | 25,051 |
| 1899 | 51,681 | 7,604 | 2,974,830 | 52,904 | 57·6 | 30,011 |
| 1900 | 48,997 | 9,813 | 2,795,141 | 55,988 | 57·0 | 29,004 |
| 1901 | 47,394 | 11,560 | 2,397,698 | 49,337 | 50·6 | 24,113 |

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The total yield for the season ended March, 1900, from 47,394 productive hives, was 2,397,698 lb., or an average of 50·6 lb. per hive. This is a decrease of over 397,000 lb. on the yield of the previous season, and of 577,000 lb. on the yield for the year ended March, 1898, when both the highest total production and the highest average were recorded. During 1900 New South Wales imported for local consumption 127,783 lb. of honey, valued at £1,810, but it consisted largely of supplies for the Barrier district from South Australia. The quantity of locally produced honey exported during the year amounted to 96,980 lb., valued at £864 of which 49,208 lb. went to Victoria and Tasmania, and 41,250 lb. to the United Kingdom. The exports to Great Britain, which for the seven years preceding 1899 did not exceed an annual average of about 7,000 lb., now appear to be increasing, the quantity sent during 1899 being 34,924 lb., making a total of 76,174 lb. for the last two years.

### Agricultural Implements.

The estimated value of implements used on the various farms is £2,065,800, or 16s. 11d. for every acre cultivated, excluding fallow lands and lands laid down in permanent grasses. This estimate does not include the value of carts, of machinery for dressing grain, or of anything not actually used in the various processes of tillage and harvesting. The value of plant of all kinds used on farms is approximately £3,100,000.

### Irrigation.

There is an immense area of rich land in parts of New South Wales possessing a fair average rainfall on which cultivation may be said to have only commenced. It is, therefore, only natural that irrigation should have received comparatively little attention ; the two directions in which it has been, as a rule, found most valuable are as an adjunct to pastoral occupation, and as a means of growing fruit in places where the rainfall is irregular and insufficient. Pumping engines have been erected for supplying water for these purposes on every important river throughout the state, and on many creeks; and though the areas irrigated are comparatively small, the results have been highly satisfactory in all cases where the conditions as to soil, etc., are suitable.

The Water Conservation Branch, which now constitutes a branch of the Department of Works, was engaged for a number of years in carrying out the surveys, levels, and discharge observations necessary before arriving at a conclusion as to what can and should be done in regard to water conservation and irrigation throughout the state. The Branch also prepared, in outline, schemes for irrigation on a large scale from the Murray and Murrumbidgee Rivers, and the proposed canal on the south side of the Murrumbidgee was actually staked out.

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In order to obtain the best advice available, the Government decided during 1896 to engage the services of Colonel F. J. Home, R.E., C.S.I., formerly Inspector-General of Irrigation in India. Colonel Home spent twelve months in the state, and during that time visited all the principal rivers of the interior, and inspected the sites of the principal schemes proposed. In the report submitted by him to the Minister, Colonel Home expressed the opinion that there are only two rivers in New South Wales from which irrigation can be carried out on an extensive scale, and even in these cases he recommended that storage works should be constructed in the mountains to supplement the low river supplies. He advised the exercise of caution in the construction of irrigation works, but considered that the canal on the south side of the Murrumbidgee, which was recommended some years ago by the Water Conservation Branch, promises better results than any other large irrigation work which can be undertaken. Next to the proposed Murrumbidgee Southern Canal, Colonel Home recommended that a canal from the river Murray, at Bungowannah, should be dealt with; but he considered that this work should await the results and the experience to be gained by the construction of the former.

The Water Rights Act, which has been in force since the 1st November, 1896, and which is administered by the Public Works Department, has proved to be even more useful than was anticipated. Prior to its operation, dams and other works on rivers and creeks existed on sufferance only; but now all rivers, creeks, and lakes are vested in the Minister for Works, who is empowered to grant licenses for works after making due inquiry. Applications for licenses, principally for works in existence before the Act was passed, came in very rapidly—up to date 195 from one Land District alone, while the total number has reached 763. Subsequently, considerable numbers of applications for licenses for new works were received, and are still coming in. The proposed works are chiefly either dams for conserving water or pumping machinery for irrigation, but in a few cases the applications are in connection with dams with channels for irrigation without the aid of pumping. In consequence of the system of licensing works after a public inquiry, the Water Rights Act has had the intended effect of putting an end to the cutting of dams and the destruction of works for water conservation and supply by persons who imagined these works were a source of grievance. As a natural consequence, it has also had the effect of encouraging the construction of dams and other works of a higher class than the land-owners were formerly willing to undertake.

Under section 4 of the Water Rights Act the Government has the power to construct any work for water conservation or drainage, if, after the publication of an estimate of the cost in the *Gazette*, the land-owners concerned submit a petition in favour of the work, and intimate their willingness to contribute to its cost. The rates to be paid in

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such cases are fixed by the Local Land Board; and several petitions of this kind, relating to both water conservation and drainage, are now being dealt with.

After a lengthened inquiry into the question of locking the River Darling from Bourke to Menindie, the Public Works Committee decided that this is a matter which may be fairly left for the consideration of the Federal Parliament.

It is recognised that a storage reservoir will be absolutely necessary in connection with any large irrigation scheme which may be carried out in the Lachlan, Macquarie, Murray, and Murrumbidgee rivers, and examinations have been made near the heads of these rivers to ascertain whether suitable sites were available for the construction of dams for the conservation of large bodies of water which would be available for distribution during periods of low supply.

A very promising site has been found on the Lachlan near Mt. McDonald, a short distance below the junction with the Abercrombie river. On the Macquarie a site has been selected near Wotton, some 15 miles below Bathurst, which it is thought will meet all requirements.

An excellent site for a huge reservoir has been found at Barren Jack on the Murrumbidgee river, a short distance below its junction with the Goodradbidgee. At each of these localities survey parties are now engaged taking levels over the areas which may be eventually submerged.

At Talmalmo on the Upper Murray an eminently suitable position has been located for the conservation of a large body of water. The site has not yet been surveyed, but it is proposed to take the necessary levels in the near future.

In addition to the above important undertakings much useful work has been done in the direction of improving the flow of various streams by cuttings and extensions of weirs, while drainage works of considerable magnitude are also being carried on. On the Macleay river it is proposed to drain an area of swamp lands containing upwards of 63,000 acres.

## Cultivation at Trial Stations.

At some of the bores and tanks owned by the state, experimental cultivation by means of irrigation with artesian and catchment water has been most successfully conducted; and lucerne, maize, wheat, tobacco, sugar-cane, date-palms, bananas, and many other tropical and sub-tropical products have been grown satisfactorily. At the Pera Bore an area of 640 acres has been subdivided into 20-acre blocks, and offered on lease as irrigation farms; and the experiments in the plantation of fruit and forest trees, date-palms, sugar-cane, cereals, grasses, potatoes, etc., have been successful, and good results are being obtained. At the Moongulla Bore a similar scheme is also being carried out; and operations are being extended in this direction to the Woolabrah and Tenandra Bores. There are plantation trial stations now in existence

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at the Native Dog, Barringun, and Belalie Bores, on the road from Bourke to Barringun; at the Enngonia Bore, and the Coolabah Bore; at the Moongulla Bore and the Dungle Ridge Bore, on the road from Collarendabri to Angledool; and at the Pera Bore, on the road from Bourke to Wanaaring.

### Agricultural College and Experimental Farms.

The importance attached by the state to the diffusion of agricultural knowledge was evidenced by the formation of a special Department of Agriculture. The question of providing technical agricultural education, and establishing a college and model farms in various parts of the state, immediately engaged attention, and a site suitable for a central establishment was selected at Ham Common, near the town of Richmond, in the Hawkesbury District. The total area of the farm is 3,430 acres, of which 1,088 acres were under cultivation in 1900. The area under grain and hay crops was 520 acres; under fruit-trees and vines, 44 acres; under green fodder and forage crops, 166 acres; and under root and other crops, 358 acres. The area of land partially cleared is 2,000 acres. The buildings and furnishings of the College and Farm were completed in January, 1896, and officially opened on the 14th April of the same year. Accommodation is provided for resident students, and during 1900 the number enrolled was 102. Theoretical as well as practical instruction is imparted by experts in every branch of agriculture; and experimental work is carried on with cereal and other crops, fertilisers are tested, analyses of soils are made, and the arts of dishorning and speying cattle, with other veterinary surgical practices, are taught. The live stock belonging to the Farm and College during 1900 comprised 76 horses, 37 bullocks, 168 head of dairy cattle, 280 pigs, and 535 sheep. The capacity of tanks and dams is 10,300 cubic yards. The total produce raised during the year ended March, 1900, was valued at £5,700, and the value of plant and machinery was £5,326. In addition to the students there are 30 hands employed. Opportunities are afforded for practice in general dairy-farming work, and instruction is imparted in cheese-making, in the management and breeding of poultry, in the rearing of bees and the preparation of honey for the market, in the killing and dressing of sheep, in the carpenter's and the blacksmith's trades, in the construction of fences, and in various other mechanical trades.

Besides the experimental farm in connection with the Hawkesbury Agricultural College and the plantation trial stations at Pera and other artesian depôts already referred to, the Department has under its direction other experimental farms at Bomen, in the Murrumbidgee District, at Wollongbar, in the Richmond River District, at Bathurst and at Coolabah. The Murrumbidgee, or Bomen, Experimental Farm is situated near the town of Wagga Wagga, and operations are well advanced. The total area is 3,300 acres, of which 769 acres are in cultivation, 496

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acres being devoted to growing cereals and hay ; 83 acres to fruit-trees and grape-vines ; 80 acres to green fodder crops, 10 acres to root crops, and 100 acres to forage plants and artificial grasses. The area of new land cleared for ploughing is 100 acres. The numbers of varieties under experiment are fruit, 2,000; and wheat, 340 ; besides numerous varieties of oats, barley, sorghum, maize, peas, onions, millet, turnips, sugar beets. potatoes, pumpkins, melons, and fodder crops of every description, Quarters for twenty-five students have been erected (the number now in training being ten), as well as cottages for the manager and workmen. There are 19 hands employed in addition to the students. The capacity of tanks and dams used for supplying water to the irrigation plots is 58,000 cubic yards. The value of farm plant and machinery is £2,256. Some thousands of farmers annually visit this farm. A specialty is made of growing seed wheats and fruits for drying. During the past season applications were received for 750 bushels of seed wheats, the quantity supplied being 700 bushels. The price was 4s. per bushel. The total value of produce for the year was £4,753. Preparations are being made for dairying and swine-breeding on a large scale, and also for carrying out feeding trials with cattle, sheep, etc. The live stock consists of 38 horses, 15 dairy and 48 ordinary cattle, 1,971 sheep, and 36 swine.

At the experimental farm at Wollongbar, on the road leading from Lismore to Ballina, some experiments have lately been made with many varieties of sugar-canes obtained, in conjunction with the Queensland Government, from New Guinea, and out of the number grown several give excellent results, which will prove valuable to sugar-cultivators in the northern districts. Experiments on a larger scale with grasses for the grazing of dairy cattle have been carried on, and steps taken to assist the dairying industry, which is greatly on the increase in the district. Reference has already been made to the operations in connection with coffee and ramie grass. Other trials are being made with citrus fruits, pine-apples, bananas, and various other tropical and semi-tropical fruits. The total area of the farm is 263 acres, and the area cultivated 174 acres, of which 126 acres are under forage plants and artificial grasses ; 30 acres under root and other crops, and 18 acres under fruit and vines ; while 67 acres are cleared or partially cleared, and 22 acres are standing scrub.

The objects to which the Bathurst Experimental Farm is devoted are the cross-breeding of sheep, irrigation, fruit-growing, cereal culture, and general mixed farming. The area of the farm is 810 acres. The area under crops is 395 acres, of which 188 acres are under cereals and hay, 138 acres under green fodder crops, 30 acres under fruit and vines, 28 acres under forage plants and artificial grasses, and 11 acres under root and other crops. There are 11 students and 24 other hands employed. The live stock number 463 sheep, 24 swine, 15 head of cattle, and 6 horses. The produce for the year was valued at £478; the value of plant and machinery is £753. The capacity of tanks and dams is 10,660 cubic yards.

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The total area of the Coolabah farm, which was established for experiments in the dry districts, is 15,000 acres, but only 1,718 acres are enclosed. There are 154 acres under cereals and hay, 10 under root and other crops, 10 under forage plants and grasses, 5 acres under green fodder crops, and 1 acre of fruit and vines, making a total area cultivated of 180 acres. The value of produce for the year was £25. The plant and machinery are valued at £1,000, and the capacity of tanks and dams is 1,400 cubic yards.

The Moree Irrigation Farm has an area of 50 acres, 40 acres being under cultivation, 35 to cereals and hay, 4 to fruit and vines, and 1 for green fodder. The farm plant is valued at £146.

The Dairy Stud Farm at Berry has an area of 196 acres. Hay and fodder are grown on 60 acres, and there are 82 dairy cattle on the farm.

A Viticultural Nursery has recently been established at Howlong, the area being 60 acres, of which 19½ acres are already under vines and fruit trees.

In addition to the means of imparting information and instruction afforded by the Agricultural College and the other Government farms, a travelling instructor visits the rural districts and gives personal advice and practical demonstration in all matters connected with agriculture.

Under the direction of the Pathologist, investigations are carried out at the laboratories at Sydney, Bathurst, and Wagga. At another laboratory at Pymble, in the county of Cumberland, the diseases of citrus plants have formed the subject of special inquiry. Operations at Bathurst are not specially directed to agriculture, but are confined more to the diseases of stock; but at Wagga the work of the laboratory is mainly in connection with wheat and other farm crops. At the chemical laboratory in Sydney, special attention has been devoted to the grading of wheats, the strength of flours, and other matters connected with the improvement of wheats under Australian conditions.

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# MINES AND MINERALS.

THE progress of New South Wales during the first sixty years of its history, viewed in the light of later events, seems painfully slow and somewhat uncertain. Yet the earlier colonists must have been conscious of the vast heritage destined to become the fortune of Australia, for on no other supposition can their sacrifices and exertions be understood. To the nations of the Old World this was practically an unknown land, and it was not until the story of the gold discoveries was noised abroad that the importance and possible future of Australia were in any way realised.

Gold-mining was for the brief period embraced in the wonderful years that succeeded the memorable discovery of Hargraves the leading industry of these states. Now, amongst the minerals obtained in New South Wales, it yields in importance to silver and coal; whilst compared with that of pastoral, agricultural, and dairy produce the value of gold procured is inconsiderable. The discovery of gold, nevertheless, made Australia a nation, for the current of immigration which set southward on its presence becoming known has never ceased. Thousands of men in the prime of life, who had been attracted to these shores by the hope of fortune easily acquired on the fields of the Turon and Bendigo, seeing patient industry everywhere rewarded, remained to share in the general prosperity, readily turning their attention to their former and less exciting pursuits.

Although the settlement of New South Wales has not been affected by the discovery of gold to the same extent as that of Victoria, yet the number of persons engaged in the search for the precious metal was at one time very considerable; but as the fields were despoiled of the wealth contained in the alluvial deposits lying to the hand of the digger, the number steadily diminished, and it is only within the last few years that the industry has again begun to claim part of the interest which its possibilities still warrant. The depletion of the easily-obtained alluvial deposits, and the abandonment of a gold-field were not, of course, always a loss to the country, for after the excitement had died out, the digger made way for the agriculturist, and resources of a more permanent character were developed in parts of the state which would otherwise have remained unknown to settlement until a later time. Gold-mining now requires the expenditure of capital for the erection of

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plant and gold-saving machinery; and the miner whose stock-in-trade consists solely of a pick, a shovel, and a tin dish, does not now find such opportunities for profitable labour as he did in the early days. Still, after the period of neglect through which the mineral resources of the state have passed, gold-mining, both alluvial and quartz, is again being prosecuted with some degree of enterprise, and now gives employment to over 3,000 more men than it did ten years ago.

The industrial disputes in the coal trade, the steady fall in the value of that mineral, and the serious decline in the prices of silver, copper, and tin, all affected the mineral industry prejudicially; but with the present increases in the price and output of coal and the sustained high prices of copper and tin, as well as the increased attention to gold-mining, to which reference has been made, it cannot be said that the immediate prospects of the industry are unpromising, even if it be conceded that its present position is not everything that might be desired.

## Mining on Crown Lands.

A miner's right is issued for a period of one year or of six months from any date, the fee payable being 5s. and 2s. 6d. respectively. It secures to the holder the privilege of entering upon Crown lands and mining for gold or any other mineral; of occupying a residence area of a quarter of an acre; of diverting and using water for mining and domestic purposes; and of using, for mining or building purposes, timber, bark, stone, and gravel if these are not on exempted or reserved lands, or within the operation of a prohibitory proclamation. In searching for gold, the holder of a miner's right may mark off on alluvial ground a prospecting protection area ranging from 600 feet long by 1,200 feet wide to 1,400 feet long by 2,800 feet wide, according to the distance from the nearest protection area or mining tenement producing gold; and when payable gold is struck he is entitled to take up, as a reward for his discovery, a prospecting claim half the length and a quarter of the width of the protection area. Other forms of occupation of alluvial ground under miner's right are block claims, frontage areas and claims, extended alluvial claims, and river and creek claims, all of which are governed by special regulations. In quartz country the prospecting protection area cannot exceed a width of 400 feet; but the length ranges from 480 to 960 feet according to the distance from the nearest mining tenement producing gold. The claim which may be marked off when payable gold is discovered is half the length and the full width of the protection area. Ordinary and extended quartz claims may also be taken up under miner's right; and special regulations govern water-rights, residence areas, and machinery areas, the last-mentioned representing 2 acres of land to which a person erecting quartz-crushing

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or other machinery for extracting gold becomes entitled. The number of miners' rights issued during 1901 was 29,193, and the revenue derived therefrom amounted to £3,330.

It is only the holder of a miner's right who may take out a gold-mining lease. The area for which an ordinary lease is granted ranges from 1 to 25 acres, or less than 1 acre by conversion of a mining tenement; and the term for which it may be taken out ranges from one to fifteen years. The annual rent payable is fixed at 10s. for the first three years, afterwards at £1 per acre or portion thereof; and when application is made for the lease, the first year's rent must be paid, together with a survey fee ranging in amount from £1 for 1 acre to £3 10s. for 20 to 25 acres. One man must be employed for every 2 acres of ground taken up. Special leases of increased areas may also be granted for gold-mining purposes where unusual difficulties exist in working the ground; but in any such case the maximum area cannot exceed 100 acres. No assignment, mortgage, sub-lease, or encumbrance can be made in connection with a gold-mining lease unless with the sanction of the Secretary for Mines. The holder of a miner's right or of a lease under the Act of 1874 may apply for permission to mine for gold or for any other mineral under roads, streets, navigable waters, or commons or reserves, the rent payable under an authority to mine for gold being 10s. per acre per annum; but in the case of small areas, the holding of miners' rights may be imposed as a condition instead of the payment of rent. A permit to search for gold on a residential lease on a gold-field may be granted to the lessee thereof, or to any person other than the lessee, provided he be the holder of a miner's right.

Business licenses, operating upon gold-fields, are granted at the rate of 20s. per annum, or 10s. for six months from date of issue, and entitle the holder to the occupation, for the purpose of residence or of carrying on business, of one-quarter of an acre in township sites, or of 1 acre on other Crown lands. Within twenty-eight clear days after the issue of the certificate of conditional registration, improvements in buildings must be made to the value of £10, otherwise the area taken up is deemed to be abandoned. During the year 1901 there were issued 2,064 business licenses, the fees therefrom amounting to £1,344.

Before the close of the year 1896, when an Amending Act was passed, a miner's right could not be used in connection with the search for and the winning of minerals other than gold, the equivalent authority being termed a mineral license. Now, a miner's right confers on the holder all the rights and benefits secured by a mineral license, and the fee payable for the latter, which was formerly 20s. for one year, has been reduced to 5s. for twelve months and 2s. 6d. for six months, as in the case of a miner's right. For the purpose of searching for opal, the holder of a mineral license or a miner's right is permitted to take possession of and to occupy 400 by 400 feet of Crown lands,

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and for other minerals with the exception of gold an area of 40 acres; but the area which may be occupied for the purpose of mining for and winning minerals is much less, being 100 feet by 100 feet in the case of opal, and 4 acres in the case of other minerals. A mineral prospecting area is the term applied to land occupied in the search for minerals, and a mineral claim to that occupied for the purpose of mining and winning minerals. For the purpose of searching for coal, the holders of sixteen miners' rights or mineral licenses may conjointly take possession of not more than 640 acres as one mineral prospecting area; and for any other mineral than coal, gold, or opal, the holders of two rights or licenses may take possession of not more than 80 acres. The extent of land which may be taken possession of conjointly as a mineral claim is not more than 12 acres, by the holders of three miners' rights or mineral licenses, in the case of minerals other than coal, gold, or opal; and not more than 200 feet by 200 feet, by the holders of four miners' rights or mineral licenses, in the case of opal. Within twenty-eight days of the discovery of opal, the occupier of a prospecting area must mark off and occupy a mineral claim not exceeding 200 feet by 200 feet, which must be worked by not less than two men. In the case of other minerals, application must be made within thirty days of discovery for the conversion of the prospecting area into a mineral leasehold. A holder of a mineral license is allowed to occupy, for the purpose of residence, an area of land not exceeding in extent a quarter of an acre, and is entitled to the use of water under certain conditions. In the course of the year 1901, 1,484 mineral licenses were issued, the revenue derivable therefrom being £238.

A mineral lease is granted for the purpose of mining for any other mineral than gold, and it is not necessary that the applicant for such should be the holder of a miner's right or a mineral license. In the case of coal the minimum area which may be leased, unless with the special consent of the Secretary for Mines, is 40 acres, and the maximum 640 acres; for other minerals the area may not be more than 80 acres, nor less than 20 acres, except, as in the case of coal, with the sanction of the Minister; but there is nothing to prevent a person holding more than one lease. The term for which a lease may be granted ranges from one to twenty years, and the annual rent, which is payable in advance, is at the rate of 5s. per acre. Coal-mining leases carry a royalty of 6d. per ton upon all coal raised, the rent being payable until the amount is exceeded by the royalty, when the latter only becomes payable. Reserved lands may be leased subject to the same conditions as Crown lands, unless the mineral sought is coal, in which case the annual rental is fixed at 2s. per acre if the surface of the land or any part of it is required, 1s. 6d. per acre where no surface is required, and 1s. per acre if wholly under water. The royalty payable, however, is the same as that charged in leases of Crown lands. The labour conditions of the leases mentioned are proposed by the applicant, and

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are subject to approval by the Secretary for Mines. All dealings in connection with these leases are the same as in gold-mining leases. The holder of a miner's right, or of a lease under the Act of 1874, may be granted an authority to mine for minerals under roads, streets, navigable waters, or commons or reserves. For coal the rent is 2s. per acre per annum, with a royalty of 6d. per ton of large coal and 3d. per ton of small coal. If the royalty exceeds the rent, then the former only is payable. In the case of other minerals except gold, the royalty payable is at the rate of 5 per cent. on the value, with a rent similar to that charged for coal lands. In the case of small areas the holding of a mineral license may be imposed as a condition in lieu of payment of rent.

At the close of the year 1901, the area held under lease to mine for gold was 6,941 acres, and for other minerals 79,914 acres. There were 382 acres leased for purposes of water conservation, and in addition to these 8,701 acres were held under special lease for gold-dredging, making a total of 95,938 acres of Crown lands held under mining lease. Under application to lease, the area of auriferous Crown lands held was 1,377 acres, and of lands upon which other minerals were being sought, 15,542 acres, giving a total of 16,919 acres of Crown lands held under application to lease.

### Mining on Private Lands.

Certain of the Crown lands of the state have been alienated from time to time, subject to various reservations in respect of gold and other minerals which might afterwards be found therein. Other lands, again, have been alienated without any such reservation; but as it is the established law that the right to the royal metal gold does not pass from the Crown unless by express conveyance, the precious metal has remained the property of the state on all alienated lands. The scope of the Mining on Private Lands Act, passed in June, 1894, was limited to the mining for gold, silver, lead, tin, and antimony. All lands alienated or in process of alienation are open to mining for gold; but to mining for the other metals, those lands only are open in respect of which the rights are expressly reserved in the Crown grants. The surface of lands enclosed and under cultivation is, except with the consent of the owner, exempt from the provisions of the Act; but leases of such lands below the surface, at such depths as may be sufficient to protect the surface from damage, may be granted. Lands within the boundaries of any town or village are exempt, unless proclaimed by the Governor to come within the operation of the Act. Crown lands held under certain forms of lease, or reserved for various public purposes, also come within the scope of the Act if a special proclamation to that effect be issued.

The holder of a miner's right or a mineral license may obtain an authority, for a term not exceeding twelve months, but renewable at the

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discretion of the warden, permitting him to enter upon private lands for the purpose of prospecting for gold, silver, lead, tin, or antimony. The area is defined by the warden, having regard to the nature of the deposit to be sought for, and mining operations may be carried on subject to the payment of rent and compensation fixed by the warden. The rent is payable quarterly in advance. The area must not exceed 20 acres in the case of ordinary auriferous lands, or 40 acres where the natural conditions render mining operations difficult and costly; while for other minerals the maximum area is 80 acres. These authorities may be converted into leases, the rent payable being £1 per acre per annum. The term of the lease cannot exceed 20 years, but subject to certain conditions renewal for a similar period may be obtained. In gold-mining one man must be employed for every 5 acres; and in mining for silver, lead, tin, and antimony, one man for every 10 acres. Owners of private lands may obtain special leases for mining purposes without payment of rent. They are also privileged to enter into agreements with holders of miners' rights or mineral licenses for the latter to take possession of the land for mining purposes as if it were Crown land. In such cases it is not necessary to take out a lease under the Act; but the land must be held and worked subject to the regulations of the Mining Board in force for the time being. Subject to the approval of the Secretary for Mines, owners may also make agreements with respect to lands other than alluvial, or grant leases of the same, the area and labour conditions being similar to those fixed and imposed in connection with other leases granted under this Act. Every agreement or lease of this kind must be registered within fourteen days

A prospecting license may be issued to the holder of a miner's right empowering him to enter upon any private lands open to gold-mining, and not otherwise utilised under the Act, for the purpose of digging and searching for gold. Before mining operations are begun a deposit must be paid to cover any damage which may be caused to the surface of the ground. If payable alluvial gold is discovered the land may be resumed by the state, the discoverer having a preferent right to a prospecting claim. The Crown has also the power to resume land containing auriferous quartz veins, provided the consent of the owner be obtained; and the prospector who discovered the vein may apply for a lease.

At the close of the year 1901, the area of private lands held under lease was 16,924 acres, of which 13,050 acres were held under gold lease, 2,273 acres under mineral lease, and 1,601 acres were being mined for gold in conjunction with other minerals. There were also 207 acres leased for water conservation and machinery sites, making a total of 17,131 acres of private lands under occupation for mining purposes, while 1,832 acres were held under application to lease. On the same date, permits to mine for gold on 168 acres of reserved lands were in existence, while the area of reserved lands held under permits to mine for other minerals was 49,127 acres.

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## Miners Employed and Production.

The following table gives the approximate number of persons actually engaged in the principal departments of mining during each of the past eight years. The figures are given on the authority of the returns to the Mines Department:—

| Mineral. | Miners employed at end of each year. | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1894. | 1895. | 1896. | 1897. | 1898. | 1899. | 1900. | 1901. |
| Gold | 17,207 | 21,434 | 22,207 | 21,286 | 19,919 | 19,348 | 17,958 | 12,064 |
| Silver and silver-lead. | 4,208 | 4,658 | 5,555 | 6,204 | 6,396 | 7,893 | 8,196 | 6,298 |
| Copper | 645 | 868 | 810 | 1,710 | 1,976 | 2,369 | 3,334 | 2,964 |
| Tin | 1,542 | 1,399 | 1,419 | 1,297 | 1,083 | 1,489 | 1,413 | 1,428 |
| Coal | 9,131 | 9,022 | 9,233 | 9,626 | 10,258 | 10,339 | 11,333 | 12,191 |
| Shale | 297 | 354 | 227 | 353 | 261 | 184 | 158 | 224 |
| Other minerals | 486 | 564 | 487 | 732 | 937 | 1,198 | 1,353 | 1,446 |
| Total | 33,516 | 38,299 | 39,938 | 41,208 | 40,830 | 42,820 | 43,745 | 36,615 |

As the table shows, there was a falling off in 1901 to the extent of over 7,000 miners on the number recorded for the previous year. Gold mining exhibits the largest decrease, the total employed in 1901 being 5,894 less than in 1900. Protracted dry weather, coupled with the diversion of labour to other branches of industry, is mainly responsibl for this deficiency.

The value of mining machinery may be approximately set down at £3,107,000, of which £1,000,000 represents the estimated value of machinery and plant used in connection with coal and shale mines. Of the remainder, £807,000 represents the value of machinery employed on gold-fields, £273,000 the amount expended on gold-dredging plant, £701,000 the value of machinery on silver-fields, £265,000 the value of plant on copper-fields, while on other mineral fields, principally tin, the value of machinery may be stated at £61,000.

It should be explained that the value of machinery given above is exclusive of the value of the large smelting plants in operation at Dapto, Cockle Creek, and Woolwich, of the copper reducing and refining plants at Lithgow and Newcastle, and of the plant at the Eskbank iron works, the total value of which is estimated at £250,000.

The summary given below shows the value of the production of the various minerals since their first discovery, as well as of minerals won in the years 1900 and 1901. It is difficult to separate the values of silver and lead contained in the ore exported from Broken Hill and



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other fields, but an estimate based on the best data available gives their values as silver, £23,391,985, and lead, £8,949,592 :—

| Mineral. | Value. | | |
|---|---|---|---|
| | During 1900. | During 1901. | To end of 1901. |
| | £ | £ | £ |
| Gold | 1,194,321 | 921,282 | 49,661,815 |
| Silver and silver-lead | 2,604,117 | 1,854,463 | 32,341,577 |
| Coal | 1,668,911 | 2,178,929 | 39,494,844 |
| Kerosene Shale | 20,652 | 41,489 | 1,970,623 |
| Coke | 109,620 | 105,665 | 586,391 |
| Tin | 142,724 | 57,232 | 6,582,494 |
| Copper | 425,391 | 490,824 | 5,875,605 |
| Antimony | 2,429 | 1,183 | 194,233 |
| Bismuth | 5,640 | 6,665 | 63,185 |
| Lead (pig, in matte, carbonate, and chloride.) | 139,146 | 100,501 | 375,086 |
| Zinc concentrates | 44,187 | 4,057 | 161,123 |
| Chrome iron ore | 11,827 | 7,774 | 90,576 |
| Opal | 80,000 | 120,000 | 576,599 |
| Oxide of iron | 686 | 229 | 11,559 |
| Other minerals | 19,207 | 23,077 | 270,572 |
| Total value £ | 6,468,968 | 5,853,370 | 138,256,282 |

It will be seen that the state has produced various minerals of the total value of over 138¼ millions sterling. In connection with this estimate of production, it may be explained that the figures relating to tin and copper differ from those appearing in the report of the Department of Mines. The ores of these metals are imported in large quantities to be smelted, and the refined copper and tin, the production of this smelting, are usually exported as domestic produce, and appear as such in the mining returns, which, of course, is an error. Also, from the heading "Other Minerals" some of the items, such as limestone flux and building-stones, which have been included in the report of the Mines Department, have been rejected in preparing the above return.

## Metallic Minerals—Gold.

Amongst the metallic minerals found in the state, gold occupies a foremost place, both on account of the quantity which has been raised, and of the influence which the discovery of the royal metal has had on the settlement of the country. The date of the discovery of gold in New South Wales was for a long time the theme of much controversy, and the question as to the original discoverer was long disputed. It is now agreed, however, that the existence of gold was known to the authorities during the early days when the state was a convict settlement, but for obvious official reasons the matter remained secret.

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The first authentic record of its discovery is contained in an extract from Assistant-Surveyor James McBrian's Field-book, bearing date 16th February, 1823, in which the following note appears:—"At 8 chains 50 links to river, and marked gum-tree—at this place I found numerous particles of gold in the sand and in the hills convenient to the river." The river referred to is the Fish River, at about 15 miles from Bathurst, not far from the spot to which the first gold-rush was made twenty-eight years afterwards.

In 1839, Count Strzelecki found gold in the Vale of Clwydd, and communicated the discovery to Governor Gipps; but he was requested to keep the matter secret, lest the knowledge of the existence of the precious metal should imperil the safety and discipline of the settlement. The Rev. W. B. Clarke also found gold in 1841, in the Macquarie Valley and the Vale of Clwydd, and expressed his belief that the precious metal would be found abundantly dispersed throughout the territory. But it was not until the year 1851 that payable deposits were proved to exist in New South Wales, and this important discovery was due to Mr. E. Hammond Hargraves, who, on his return some time previously from California, pointed out to the Government the localities in which he had found payable deposits of alluvial gold, viz., at Lewis Ponds and Summer Hill Creek and the Macquarie River, in the districts of Bathurst and Wellington. Prospecting operations followed in the neighbourhood, with the result of which everyone is now familiar. A few weeks later, rich deposits were discovered at Ballarat, Mount Alexander, and other places in Victoria; and the world witnessed a gold-rush from all parts of the earth to these states, similar to that which some years before had taken place to California.

Native gold is the only true mineral species of gold which has so far been found in New South Wales, and was first met with in easily worked alluvial deposits. These diggings have, until very lately, attracted the greater number of miners, as the precious metal is obtained without costly appliances; but however rich they may be, alluvial deposits are very soon worked out, their area generally being of limited extent. In such deposits gold is found associated with a variety of minerals. It is found in the shape of grains and nuggets, water-worn in appearance, and sometimes of considerable size. Though New South Wales has not yielded nuggets of such an extraordinary size as those found in Victoria, yet some splendid specimens of that gold formation have been unearthed at various times. In July, 1851, a mass of gold was found on the Turon River gold-fields which weighed 106 lb., or 1,272 oz. This, however, though called a "nugget," was really a piece of reef gold. In November, 1858, at Burrandong, near Orange, another nugget was found, which when melted at the Sydney Mint gave 1,182 oz. 6 dwt. of pure gold, of the value of £4,389 8s. 10d. A third nugget, called the Brennan, was sold in Sydney in 1851 for £1,156. In 1880 and 1882, several nuggets which were unearthed at Temora weighed from 59 to 139 oz.; and in 1887 nuggets were found by fossickers in various parts of the country,

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four of which, weighing respectively 357 oz., 200 oz., 47 oz., and 32 oz., were obtained at Hargraves, and another, weighing 30 oz., at Limestone Creek. The Jubilee nugget, weighing 344 oz., was also discovered in that year at Maitland Bar, in the Mudgee District, and was worth about £1,236.

Although the alluvial deposits discovered in the early days have been practically abandoned and are considered to be worked out, there is ample evidence that the surface of the country has been merely scratched. The search for gold has been vigorously prosecuted for half a century and still new fields and fresh deposits are being discovered—in localities, too, supposed to have been thoroughly examined. The gold formation is very widely diffused throughout the state, as may be gathered from the fact that the fields of Albert, Delegate, and Ballina are between 600 and 700 miles distant from each other; and it has been estimated that the extent of country covered by formations in association with which gold always occurs, exceeds 70,000 square miles, whilst the precious metal has also been found in strata where its presence was never suspected. A considerable portion of this area, equal to nearly one-fourth of the whole surface of the state, has never been touched by the pick of the miner.

Gold is also found in quartz-veins, occurring in older and metamorphic rocks, such as argillaceous slates, chloritic and talcose schists, as well as granite, diorite, serpentine, and porphyry. Vein gold is associated more commonly with iron pyrites, though found with copper, lead, zinc, and silver ores, and also in asbestos. But the extraction of gold from quartz-veins requires the erection of extensive machinery and gold-saving appliances, involving an outlay of capital such as the ordinary miner seldom possesses. Quartz-mining is generally carried on by companies.

Gold has been found in conglomerates in the Coal Measures at Tallawang, and in Carboniferous strata. The Rev. W. B. Clarke detected it in the Hawkesbury sandstone formation, on the north side of Sydney Harbour, and he also mentions that it is distributed through the sand at the mouth of the Richmond River. These auriferous beach sands have of late years given employment to several hundred men. Along the southern part of the coast of the state, it has been found near the shore, in the sand washed by the waves of the Pacific Ocean; whilst at Bermagui, and in the district extending between Moruya and Eden, important discoveries have also been made. It would be impossible to name every part of the province in which gold is found, as the precious metal appears throughout the greater part of the territory, and there is ample evidence that there exist deposits which will offer to the prospector or the miner a profitable field of employment for many years to come.

Below will be found the quantity and value of the gold produced during each year, since 1851. The New South Wales gold which was received at the Sydney Mint for coinage in 1901 amounted to 200,626 oz.,

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of the gross value of £692,100, the average price being £3 9s. 0d. per oz. The quantity exported during the year without passing through the Mint was 66,435 oz., valued at £229,182 :—

| Year. | Quantity. | Value. | Year. | Quantity. | Value. |
|---|---|---|---|---|---|
| | oz. | £ | | oz. | £ |
| 1851 | 144,120 | 468,336 | 1878 | 119,710 | 430,200 |
| 1852 | 818,751 | 2,660,946 | 1879 | 109,649 | 407,219 |
| 1853 | 548,052 | 1,781,172 | 1880 | 119,322 | 444,253 |
| 1854 | 237,910 | 773,209 | 1881 | 151,512 | 573,582 |
| 1855 | 171,367 | 654,594 | 1882 | 140,469 | 526,522 |
| 1856 | 184,600 | 689,174 | 1883 | 123,811 | 458,530 |
| 1857 | 175,949 | 674,477 | 1884 | 107,403 | 396,059 |
| 1858 | 286,798 | 1,104,175 | 1885 | 103,736 | 378,665 |
| 1859 | 329,363 | 1,259,127 | 1886 | 101,416 | 366,294 |
| 1860 | 384,053 | 1,465,373 | 1887 | 110,288 | 394,579 |
| 1861 | 465,685 | 1,806,171 | 1888 | 87,541 | 317,241 |
| 1862 | 640,622 | 2,467,780 | 1889 | 119,949 | 434,784 |
| 1863 | 466,111 | 1,796,170 | 1890 | 127,760 | 460,285 |
| 1864 | 340,267 | 1,304,926 | 1891 | 153,583 | 559,231 |
| 1865 | 320,316 | 1,231,243 | 1892 | 158,502 | 575,299 |
| 1866 | 290,014 | 1,116,404 | 1893 | 179,288 | 651,286 |
| 1867 | 271,886 | 1,053,578 | 1894 | 324,787 | 1,156,717 |
| 1868 | 255,662 | 994,665 | 1895 | 360,165 | 1,315,929 |
| 1869 | 251,491 | 974,149 | 1896 | 296,072 | 1,073,360 |
| 1870 | 240,858 | 931,016 | 1897 | 302,817 | 1,128,164 |
| 1871 | 323,609 | 1,250,485 | 1898 | 340,493 | 1,244,330 |
| 1872 | 425,288 | 1,644,177 | 1899 | 496,196 | 1,751,815 |
| 1873 | 362,104 | 1,396,375 | 1900 | 345,650 | 1,194,521 |
| 1874 | 271,166 | 1,041,614 | 1901 | 267,061 | 921,282 |
| 1875 | 230,882 | 877,694 | | | |
| 1876 | 167,411 | 613,190 | Total | 13,475,633 | 49,661,815 |
| 1877 | 124,118 | 471,448 | | | |

It will be seen that the value of the gold won in 1899 exceeded that of any other year since 1863, and during the whole period covered by the table only five years, viz., 1852, 1853, 1861, 1862, and 1863, show higher values for production.

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As the table shows, there was a considerable decrease in production during 1901 as compared with the previous year, while the total value of gold won fell off to the extent of £273,239. The number of gold miners employed also shows a decrease of 5,894 on the previous year's total. The effects of the drought and the diversion of labour to more profitable avenues of employment are apparent from the falling off in number of miners and volume of production, while in connection with the figures for the last two years it may be remarked that the yield was influenced by the fact that the increased attention given to dredging and hydraulic sluicing absorbed a large proportion of the capital and labour usually devoted to the ordinary methods of gold-mining. It was expected that these methods of gold-saving would have added more largely to the output in 1899, but operations were restricted by the fact that the Gold Dredging Act which validated all leases and applications for leases approved of prior to its operation was not passed till December, 1899. The introduction of the systems of dredging and sluicing has awakened considerable activity in certain districts where gold is being saved from the beds of rivers and creeks, and also from wet lands which the ordinary alluvial miner experienced considerable difficulty in working. The initial cost in these undertakings is somewhat heavy, but on the other hand it is claimed that the large quantity of material that can be treated at a small cost, and the saving in labour, more than compensate for it. With the present improved appliances it is possible to treat profitably alluvial drifts containing only one or two grains to the ton, while a large percentage of gold, and particularly of fine gold, is obtained by operating over alluvial drifts previously worked in a crude way by the alluvial miner. An increase in the number of dredges, coupled with a better understanding of local conditions, will cause, undoubtedly, a considerable augmentation in the total gold yield.

In 1900 large areas were taken up for dredging for gold and tin, and in spite of the fact that many of the dredges were only working for short periods in the year results were very satisfactory. Up to the end of the year 1900 applications were received for 21,331 acres, the total area leased being 6,943 acres. The leases applied for were situated on the following rivers with their tributaries:—The Clarence, Macquarie, Shoalhaven, Clyde, Tumut, Snowy, Tuross, and Turon. There were at the end of the year twenty-two dredges in operation, and ten others were nearing completion. The estimated value of working dredges and plant was £158,788, and the probable cost of those in course of construction was set down at £80,000. The returns from twelve "bucket" dredges show that 1,344,057 cubic yards of material were treated in 29,487 working hours, the gold won amounting to 7,025 oz., valued at £26,627, or an average of 2½ grains, worth 4¼d. for every yard. The cost of working, exclusive of the amount expended in alterations and repairs, was given as £10,280, or a fraction over 1¾d. per cubic yard treated. From returns of three "pump" dredges,

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it was found that 234,741 cubic yards of material were operated on, and yielded 1,726 oz. of gold, valued at £6,617, or an average of 3½ grains, worth 6¾d. per cubic yard treated. Information as to cost of working is not given, but it appears that pump dredging or hydraulic sluicing is more expensive than bucket dredging. While it is possible for two men to work a bucket dredge, eight are required for pumping or sluicing. Under certain conditions, however, the pump dredge is more effective than the bucket dredge. Where the bed rock or bottom is hard and uneven, the bucket dredge fails to recover the gold lodged in crevices, while in deposits exceeding 50 feet in depth the hydraulic sluice is also found more effective.

It is a well-known fact that in years of prosperity, when employment of all kinds is easily obtainable, people are attracted from gold-mining to other pursuits, which, while offering smaller chances of rapidly acquiring wealth, nevertheless give steady employment, and when work in the ordinary occupations is scarce, these persons again turn their attention to gold-mining. The depression in trade experienced during the past few years had, therefore, the effect of largely increasing the number of seekers after gold, many of the unemployed being supplied by the Government with miners' rights and with railway passes to take them to likely spots where a living could be made by fossicking, on condition that the cost should be afterwards refunded when the men were in a position to pay the money. A large number of applications were made by the relatives and mates of these men for assistance to join their friends, showing that, at any rate, many of those originally sent fossicking found sufficient inducement to remain on the fields. It would benefit both the individual and the state if a larger number of the labouring population of the province were to take advantage of the liberal laws under which the holder of a miner's right may take up a residence area, in addition to a claim, on the gold-fields.

In other directions much enterprise has been shown during the last few years in the search for gold, and quartz reefs have been opened up in many parts with profitable results. Old workings, which had been abandoned years before, under an impression that they were valuable only on the surface, and which had scarcely, in any instance, been tested to a greater depth than 200 feet, have been reopened with encouraging results, and quartz-mining is becoming more and more a permanent industry, the yield being now more than twice as great as it was eight years ago. In connection with quartz-mining, it is noteworthy that the deepest mine in New South Wales is only a little over 1,000 feet, while in Victoria payable stone is being raised from eight mines over 3,000 feet in depth, and from nine others over 2,500 feet deep, while there are no less than twelve other mines in which the shafts are down 2,000 feet or over. With the object of encouraging mine-owners to reach the reefs and alluvial deposits at greater depths than are now worked, the Government of New South Wales offered a reward of

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£2,000 for the discovery of payable quartz or alluvial at a depth of 1,500 feet, the amount to be increased to £3,000 when a depth of 2,000 feet is reached.

The number of men employed in alluvial and in quartz-mining during the last ten years, with the production from each branch of the industry, is set down below. Steady and rapid progress in the employment afforded in quartz-mining may be traced from 1892 to 1897, since which year the increase in the number of miners so employed has not been maintained; in alluvial mining the progress has also been decided, but in this branch of the industry the number of men engaged is liable to fluctuate with accessions to and withdrawals from the ranks of the fossickers, according to the state of the labour market. All the men employed in quartz-mining are Europeans, but on alluvial fields 779 Chinese found occupation in 1900:—

| Year. | Number of Miners. | | Production. | |
|---|---|---|---|---|
| | Alluvial. | Quartz. | Alluvial. | Quartz. |
| | No. | No. | oz. | oz. |
| 1891 | 4,748 | 6,418 | 50,795 | 102,788 |
| 1892 | 4,030 | 5,019 | 35,390 | 123,112 |
| 1893 | 6,401 | 5,556 | 55,337 | 123,951 |
| 1894 | 8,742 | 8,465 | 93,742 | 231,045 |
| 1895 | 11,331 | 10,103 | 81,646 | 278,519 |
| 1896 | 10,138 | 12,069 | 77,290 | 218,782 |
| 1897 | 9,030 | 12,256 | 75,249 | 227,568 |
| 1898 | 8,303 | 11,616 | 68,224 | 272,269 |
| 1899 | 8,030 | 11,318 | 91,477 | 404,719 |
| 1900 | 8,387 | 9,571 | 68,782 | 276,868 |

The principal seats of alluvial gold-mining are the Bathurst and Mudgee districts; the country watered by the various feeders of the Upper Lachlan; and the Braidwood, and Tumut and Adelong districts. In 1880, the Temora gold-fields, in the Murrumbidgee district, about 30 to 40 miles from the inland town of Wagga Wagga, were discovered, and were for some years in a flourishing condition. The district is now drifting from mining into an important agricultural settlement. In the north of the state, in the New England district; on the coast, in the county of Gloucester; and in the extreme north-west, at Mount Poole, Mount Browne, and Tibooburra, the gold-fields maintain a considerable population of miners. Hydraulic sluicing is adopted in several mines in the New England district. At Uralla Creek, the Brown's Paddock Gold Mines Company has put into operation a novel and cheap system of mining in alluvial. This creek has for years past been the depository of the tailings from the old Sydney Flat diggings, which have filled it for several feet above the original level; in addition, there is below this sediment an alluvial deposit from 10 to 20 feet in thickness

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on the bed-rock. To mine this profitably, the whole of the material has to be removed and washed; and to provide for the proper carrying out of these operations, a system of dredging and hydraulic sluicing combined has been adopted, the machinery employed being capable of raising 60 cubic yards of stuff and 150,000 gallons of water per hour. Owing to the scarcity of water during the three previous years, operations were not commenced till February, 1900; they were continued throughout the year with satisfactory results. Water supply works have been constructed at an estimated cost of £4,500, and the suction dredge is valued at £4,810. Hydraulic sluicing is also carried out at Kiandra, on the southern table-land, where extensive reservoirs have been formed, and the face of the rock attacked in various places; and at Tumbarumba. The powerful pumping machinery, which, early in 1898, was erected on the ground held by the Tumbarumba Flat Gold-sluicing Company, has, after an exhaustive trial, proved the large area operated upon to be quite worthless, and the enterprise of testing the ground involved a heavy loss. The machinery was moved to the ground lately held by the United Trades Company in the bed of Tumbarumba Creek, and the results so far are exceedingly good. Near Wagonga, in the southern mining district, arrangements have been made for hydraulic sluicing on a large scale in connection with alluvial leases at Makin's Creek.

The following table shows the average yield during 1900 from several alluvial mines where the quantity of material treated is ascertainable:—

| District. | Quantity. | Average per load. | Yield of Gold. |
|---|---|---|---|
| | loads. | oz. dwt. gr. | oz. |
| Albert | 33,640 | 0 0 12 | 901 |
| Bathurst | 58,675 | 0 1 18 | 5,144 |
| Clarence & Richmond | 2,160 | 0 3 12 | 382 |
| Lachlan | 23,322 | 0 2 20 | 3,351 |
| Mudgee | 17,550 | 0 1 2 | 960 |
| Tambaroora & Turon | 2,130 | 0 0 16 | 72 |
| *Peel and Uralla | 1,617 | 0 1 5 | 98 |
| *Southern | 27,050 | 0 1 2 | 1,514 |
| *Tumut and Adelong | 368,648 | 0 0 4 | 3,136 |
| Total | 534,792 | 0 0 13 | 15,558 |

* Sluicing operations principally.

The principal quartz-veins worked in New South Wales are situated near Adelong, Armidale, Bathurst, Hill End, Orange, Parkes, and Wyalong. The districts which produced the largest quantities of gold during 1900 were—Cobar and Mount Drysdale (where the precious metal is largely associated with copper), 44,676 oz.; Wyalong and Wyalong West, 32,425 oz.; Peak Hill, 13,383 oz.; Hillgrove, 12,435 oz.; Adelong, 11,870 oz.; Gundagai, 11,062 oz.; Wellington (chiefly Mitchell's Creek),

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8,930 oz.; Orange (chiefly Lucknow), 6,465 oz.; Parkes, 5,856 oz.; Forbes, 5,443 oz.; Araluen (chiefly dredging), 4,993 oz.; Cootamundra, 4,009 oz.; Rockley, 4,009 oz.; Metz (formerly Hillgrove West), 3,770 oz.; Sunny Corner, 3,721 oz.; Hill End, 3,441 oz.; Wattle Flat, 3,325 oz.; Stuart Town, 3,177 oz.; Nowra, 2,997 oz.; Drake, 2,913 oz.; Mount McDonald, 2,853 oz.; Gulgong, 2,800 oz.; Tumbarumba, 2,460 oz.; Uralla, 2,231 oz.; Windeyer, 2,222 oz.; Sofala (principally by dredging), 2,190 oz.; and Temora, 2,127 oz.

In addition to the Mount Drysdale gold-field, in the Cobar district, discovered in 1893, the most important find of recent years was made at Wyalong, in the Lachlan district, where the largest amount of gold won in 1897, 1898, and 1899 was obtained. The first prospecting claim on this field was registered on the 26th December, 1893; a great rush at once ensued, and in the early part of 1894 there were probably more than 10,000 persons on the ground; the population now numbers 4,200, of whom about 1,600 are miners.

The following table shows the progress of the Wyalong field since 1894:—

| Year. | Gold Won. | |
|---|---|---|
| | Quantity. | Value. |
| | oz. | £ |
| 1894 | 9,649 | 35,946 |
| 1895 | 24,497 | 91,864 |
| 1896 | 33,495 | 130,000 |
| 1897 | 34,370 | 137,490 |
| 1898 | 34,582 | 138,328 |
| 1899 | 44,675 | 178,700 |
| 1900 | 32,425 | 129,700 |

For the period 1897–9 the production of Wyalong was the highest from any one field, but the output during 1900 was exceeded by that of the Cobar and Mount Drysdale field. The decrease in the yield in comparison with former periods was caused by the mine-owners treating large quantities of low-grade ores raised in previous years. To enable them to do this profitably, the services of 400 miners were dispensed with, so that there was an average of only 1,200 miners employed, as against 1,600 in 1899 and 1898. There was, in consequence, a considerable amount of prospecting in search of alluvial, but no finds of any importance resulted. The estimated value of the machinery on this field is £60,500, and the reduction works comprise four batteries of 87 head of stamps, one Huntington mill, four cyanide and two chlorination plants. Another cyanide plant is in course of erection. The gold from the Wyalong district is very pure, averaging £4 per oz. Some of the ore obtained on this field is exceptionally rich, the highly mineralised stone won at the lowest depths averaging from 5 oz. to 24 oz. per ton.

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The large quantity of low-grade ore treated during 1900, however, reduced the average to a little under 1·5 oz. per ton of material treated.

The Cobar and Mount Drysdale district now holds the premier position as a gold-field, the yield during 1900 exceeding that of Wyalong by 12,251 oz. The gold won at Cobar is, however, not so fine as that obtained at Wyalong, and only averages £3 10s. per oz. Much of the success of this field during 1900 was due to the operations of the Cobar Gold Mines Company, Limited. This company possesses a splendid water supply, and the equipment of the mine is considered the best in New South Wales. During the year ended September, 67,046 tons of ore were crushed, and yielded gold valued at £27,630, and after deducting all expenses of treatment, a profit of nearly £21,000 resulted. The yield for the district in 1900 was 44,676 oz., valued at £157,108.

The following table shows the average yield of gold obtained from certain parcels of quartz crushed in each of the mining districts during 1900:—

| District. | Quantity. | Average per ton. | Yield of Gold. |
|---|---|---|---|
| | tons. | oz. dwt. gr. | oz. |
| Albert | 120 | 0 16 16 | 100 |
| Bathurst | 50,347 | 0 6 23 | 17,571 |
| Clarence and Richmond | 1,588 | 0 14 17 | 1,170 |
| Cobar | 104,552 | 0 8 17 | 45,653 |
| Hunter and Macleay | 868 | 0 12 5 | 530 |
| Lachlan | 83,004 | 0 15 7 | 63,491 |
| Mudgee | 64,201 | 0 7 8 | 23,649 |
| New England | 864 | 1 8 2 | 1,214 |
| Peel and Uralla | 30,534 | 0 12 22 | 19,739 |
| Southern | 27,626 | 0 8 4 | 11,291 |
| Tambaroora and Turon | 3,506 | 0 11 12 | 2,019 |
| Tumut and Adelong | 24,874 | 0 9 15 | 11,985 |
| Total | 392,084 | 0 10 2 | 198,412 |

The gold found in New South Wales is never absolutely pure, always containing traces of other metals, such as copper, iron, and bismuth, and often a fair percentage of silver. To the presence of silver its light yellow colour is due. New South Wales gold is generally lighter in colour than Victorian gold, but is of a deeper yellow than that found in the fields of Southern Queensland. Its specific gravity averages about 17·5.

The average weight of the metal obtained by each miner in 1900 was 19·25 oz., valued at £66 10s. 4d. It must not be supposed, however, that this small sum represents the total earnings of these men for the year. Many of the miners follow other pursuits during a portion of the year; besides this, there were several new fields which so far had yielded very small returns, and a large number of men were engaged in prospecting. For the past ten years the average quantity of gold won per miner has been 17·24 oz., valued at £62 1s. 10d.

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The steam engines employed in quartz-mining in 1899 numbered 318, with an aggregate of 6,776 horse-power. There were also 172 crushing-machines, and 1,986 stamp-heads. In alluvial gold and tin mining there were employed 62 steam engines, of which the aggregate horse-power equalled 1,535. The value of the machinery employed in gold-mining is estimated at £975,177, of which £150,788 was expended on gold-dredging plant.

The number of fatal accidents in gold-mines during 1900 was 11—seven less than in the previous year. Nine men lost their lives in auriferous quartz-mining, and two in alluvial workings. Sixteen serious accidents and 21 of a minor character occurred in quartz mines.

From the date of the first discovery of payable gold, in 1851, to the end of the year 1900, the quantity of gold produced in the Commonwealth and New Zealand represents a total value of £443,550,310, extracted in the short space of forty-nine years. The share of each state and of New Zealand in the production of this wealth is given below :—

| State. | Value. | Proportion raised in each State. |
|---|---|---|
| | £ | per cent. |
| New South Wales | 48,740,533 | 11·0 |
| Victoria | 257,386,448 | 58·0 |
| Queensland | 50,209,783 | 11·3 |
| South Australia | 2,294,975 | 0·5 |
| Western Australia | 22,914,059 | 5·2 |
| Tasmania | 4,598,412 | 1·0 |
| Commonwealth | 386,144,210 | 87·0 |
| New Zealand | 57,406,100 | 13·0 |
| Australasia | 443,550,310 | 100·00 |

By far the largest proportion of this amount was produced by the State of Victoria—amounting, in fact, to nearly three-fifths of the whole. New Zealand is the next largest producer, Queensland coming third, and New South Wales fourth. For the ten years ended 1900, the world's production of gold is estimated as follows :—

| Year. | Value. | Year. | Value. |
|---|---|---|---|
| | £ | | £ |
| 1891 | 26,130,000 | 1896 | 44,077,000 |
| 1892 | 29,260,000 | 1897 | 49,023,000 |
| 1893 | 31,110,000 | 1898 | 59,038,000 |
| 1884 | 38,035,000 | 1899 | 64,006,000 |
| 1895 | 41,413,000 | 1900 | 52,638,000 |

Of the total value for 1900, the Commonwealth produced about 26 per cent., and New South Wales alone, 2·3 per cent.

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## Silver.

Up to the year 1882 the quantity of silver raised in New South Wales was very small, but in that and following years extensive discoveries of this metal, associated principally with lead and copper ores, were made in various parts of the state, notably at Boorook, in the New England district, and, later on, at Sunny Corner, near Bathurst, and at Silverton, Broken Hill, and other places on the Barrier Range.

The argentiferous lead ores of the Barrier Ranges and Broken Hill districts of New South Wales have, more than any other, attracted attention. This rich silver-field, which was discovered in 1883 by Charles Rasp, a boundary rider on Mount Gipps Run, extends over 2,500 square miles of country, and has developed into one of the principal mining centres of the world. It is situated beyond the river Darling, and on the confines of South Australia. In the Barrier Range district the lodes occur in Silurian metamorphic micaceous schists and banded gneisses, intruded by granite, porphyry, and diorite, and traversed by numerous quartz reefs, some of which are gold-bearing. The Broken Hill lode is the largest as yet discovered. It varies in width from 10 feet to 200 feet, and may be traced for several miles, the country having been taken up all along the line of the lode, and subdivided into numerous leases, held by mining companies and syndicates.

The Broken Hill Proprietary Company hold the premier position. They have at Port Pirie, in South Australia, a complete smelting plant on the latest and most approved principles, and have enlisted the services of competent managers, whose experience has been gained in the celebrated silver-mining centres of the United States. From the commencement of mining operations in 1885 to the end of May, 1901, the Company treated 5,230,491 tons of silver and silver-lead ores, producing 109,108,825 oz. of silver and 470,538 tons of lead, valued in the London market at £23,131,330. They have paid dividends and bonuses to the amount of £7,400,000, besides the nominal value of shares from the several "Blocks." The sum spent in the erection and construction of plant, from the opening of the property, has been about £1,183,302. The mine wages and salary sheet for the last twelve months was £584,176, including £132,768 paid to contractors and £50,961 for quarrying. The balance of £400,447 was made up of mine wages, £90,080; smelters' wages, £133,835; lixiviation, chloridising, concentration, roasting, and refinery wages, £150,104; and electric light, machine-shop wages, and assay expenses, £26,428. The net profit for the year was £214,400. Besides the mines at Broken Hill, there are workings at Silverton and Thackaringa in the same district. The total value of minerals exported from the Barrier district during 1900 was £2,281,227, distributed as follows:—Silver-lead ore, concentrates and slimes, 420,335 tons, £2,145,082; copper ore, and contained in matte, 1,193 tons, £14,123; zinc concentrates, 19,734 tons, £38,611; lead-

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chloride and carbonate, 1,889 tons, £65,387; tin ore, 92 cwt., £260; and gold contained in silver-lead ores, 4,441 oz., £17,764. The quantity of pure silver contained in the items enumerated amounted to about 8,682,500 oz.

As a natural consequence of the success of the Broken Hill mines, numbers of miners were attracted to the district, and the population, which in 1883 consisted of only a few station hands, had risen at the date of the 1891 census to a total of 24,436 souls, of whom 6,465 men were employed in and about the mines. The population of the district at 31st March, 1901, the date of the last census, had increased to 28,903 persons, of whom, 27,516 were within the municipal boundaries of Broken Hill, and 7,405 employed in and about the mines. The aggregate output of the mines, including the Proprietary, to the end of 1900, was valued at £28,349,751; and the value of the machinery in the Barrier district at the end of the year was £646,930. This is much less than the values previously set down, the reduction being chiefly due to the removal of machinery to Port Pirie, where the smelting operations of the Proprietary Company are now wholly carried out. For this reason, too, the production is exported as ore, as shown above. The proximity of Silverton and the Barrier district to South Australia could not fail to attract the attention of the business people at Adelaide, who were not slow to realise the advantages which they would obtain by attracting towards their capital the traffic of a region of such immense wealth. The railway system of South Australia was immediately extended to the border, and a tramway was laid down in New South Wales, thus connecting the town of Silverton and the mines of Broken Hill with the railway to Adelaide and Port Pirie, in the latter instance reducing the land carriage by some 70 to 80 miles.

The following tables have been compiled from returns supplied to the Department of Mines, and represent the estimated gross metallic contents and the value of the production from the Broken Hill field during 1900:—

| Class of Ore or Product. | Ore, &c., treated. | Estimated Gross Contents. | | | | |
|---|---|---|---|---|---|---|
| | | Silver. | Lead. | Zinc. | Gold. | Copper. |
| | tons. | oz. | tons. | tons. | oz. | tons. |
| Sulphide lead concentrates | 244,930 | 6,395,007 | 133,691 | 19,892 | 365 | ..... |
| Zinc concentrates ..... | 1,689 | 19,200 | 194 | 552 | ..... | ..... |
| Lead carbonate ..... ... | 10,357 | 773,121 | 2,577 | ..... | 388 | ..... |
| ,, sulphide ..... | 260 | 16,381 | 90 | ..... | ..... | ..... |
| Copper matte ..... | 184 | 1,822 | 19 | ..... | ..... | 3 |
| Slimes ..... ..... | 83,200 | 1,138,948 | 12,134 | 14,516 | ..... | ..... |
| Middlings ..... | 191,652 | 1,751,734 | 17,675 | ..... | ... .. | ..... |
| Sulphides, chlorides, &c... | 8 | 39,685 | ..... | ..... | ..... | ..... |
| Sulphide ore.. ..... | 523 | ..... | ..... | ..... | ..... | ..... |
| Total..... | ..... | 10,135,898 | 165,780 | 34,960 | 753 | 3 |

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| Class of Ore or Product. | Value of Gross Contents. | | | | | |
|---|---|---|---|---|---|---|
| | Total. | Silver. | Lead. | Zinc. | Gold. | Copper. |
| | £ | £ | £ | £ | £ | £ |
| Sulphide lead concentrates | 2,998,595 | 748,714 | 2,249,421 | * | 1,460 | ..... |
| Zinc concentrates ..... | 16,625 | 2,319 | 3,266 | 11,040 | ..... | ..... |
| Lead carbonate ..... | 135,177 | 90,745 | 42,880 | ..... | 1,552 | ..... |
| ,, sulphide ..... | 3,491 | 2,047 | 1,444 | ..... | ..... | ..... |
| Copper matte ..... | 758 | 216 | 323 | ..... | ..... | 219 |
| Slimes ..... | 335,542 | 133,684 | 201,858 | * | ..... | ..... |
| Middlings ..... | 506,084 | 205,609 | 300,475 | ..... | ..... | ..... |
| Sulphides, chlorides, &c... | 5,000 | 5,000 | ..... | ..... | ..... | ..... |
| Sulphide ore ..... | 2,518 | 2,518 | ..... | ..... | ..... | ..... |
| Total ..... | 4,094,790 | 1,190,852 | 2,799,667 | 11,040 | 3,012 | 219 |

* No value is received for the zinc contents of the concentrates or slimes.

The totals shown above do not represent the quantity and value of the metals actually extracted, as a large proportion of the contents of the slimes and middlings cannot be profitably dealt with. There are also considerable quantities of tailings lying at the mines, which at present have no commercial value, owing to the absence of an economical method of treatment. The estimated metal contents, based on the average assay returns, are given below :—

| Description of Product. | Tonnage. | Estimated Gross Contents. | | |
|---|---|---|---|---|
| | | Silver. | Lead. | Zinc. |
| | | oz. | tons. | tons. |
| Tailings ..... | 475,051 | 2,783,706 | 27,716 | 72,127 |
| Zinc tailings ..... | 4,361 | 47,254 | 219 | 1,023 |
| ,, product ..... | 5,757 | 62,235 | 333 | 1,332 |
| Overflow tailings ..... | 816 | 10,845 | 30 | 186 |
| Totals ..... | ..... | 2,904,040 | 28,298 | 74,668 |

The difficulties previously experienced by the Broken Hill Proprietary in smelting the fine sulphide ores and concentrates have been practically overcome, and the company now has three briquetting machines at work. The concentrators have also been completed, so that the plant

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is now one of the finest and largest of its kind in existence, capable of treating 10,000 tons per week. In many centres of mining industry the treatment of the sulphides is engaging much attention, and experiments are still in progress to find some more complete and economical method of dealing with these complex ores.

During 1900 the state metallurgical works were closed down, as it was considered that the requirements of the mining industry were fully met by the large smelting works at Dapto, near Lake Illawarra, and at Cockle Creek, near Newcastle. The following figures show the operations of these works during 1900, when over 600 hands were employed. The gross weight of ore treated was 64,740 tons, which produced 80,064 oz. of gold, 1,661,823 oz. of silver, 23,823 tons of lead, and 988 tons of copper. It should be explained that the ore treated includes a quantity of imported ores.

The quantity and value of silver and silver-lead ore exported from New South Wales to the end of 1901 is shown in the following table:—

| Year. | Silver. | | Silver-sulphides, Silver-lead, and Ore. | | | Total Value. |
|---|---|---|---|---|---|---|
| | Quantity. | Value. | Quantity. | | Value. | |
| | | | Ore. | Metal. | | |
| Up to | oz. | £ | tons | tons | £ | £ |
| 1881 | 726,779 | 178,405 | 192 | ..... | 5,025 | 183,430 |
| 1882 | 38,618 | 9,024 | 12 | ..... | 360 | 9,384 |
| 1883 | 77,066 | 16,488 | 106 | ..... | 1,625 | 18,113 |
| 1884 | 93,660 | 19,780 | 4,668 | ..... | 123,174 | 142,954 |
| 1885 | 794,174 | 159,187 | 2,096 | 191 | 107,626 | 266,813 |
| 1886 | 1,015,433 | 197,544 | 4,802 | ..... | 294,485 | 492,029 |
| 1887 | 177,308 | 32,458 | 12,530 | ..... | 541,952 | 574,410 |
| 1888 | 375,064 | 66,668 | 11,739 | 18,102 | 1,075,737 | 1,142,405 |
| 1889 | 416,895 | 72,001 | 46,965 | 34,580 | 1,899,197 | 1,971,198 |
| 1890 | 496,552 | 95,410 | 89,720 | 41,320 | 2,667,144 | 2,762,554 |
| 1891 | 729,590 | 134,850 | 92,384 | 55,396 | 3,484,739 | 3,619,589 |
| 1892 | 350,662 | 56,884 | 87,505 | 45,850 | 2,420,952 | 2,477,836 |
| 1893 | 531,972 | 78,131 | 155,859 | 58,401 | 2,953,589 | 3,031,720 |
| 1894 | 846,822 | 94,150 | 137,813 | 42,513 | 2,195,339 | 2,289,489 |
| 1895 | 550,142 | 81,858 | 190,193 | 29,687 | 1,560,813 | 1,642,671 |
| 1896 | 202,789 | 26,518 | 267,363 | 19,573 | 1,758,933 | 1,785,451 |
| 1897 | 150,005 | 16,711 | 270,913 | 18,105 | 1,681,528 | 1,698,239 |
| 1898 | 533,059 | 59,278 | 388,460 | 10,109 | 1,644,777 | 1,704,055 |
| 1899 | 692,036 | 76,913 | 424,337 | 20,290 | 1,993,744 | 2,070,657 |
| 1900 | 774,203 | 90,243 | 420,910 | 17,928 | 2,513,874 | 2,604,117 |
| 1901 | 448,501 | 50,484 | 400,157 | 16,921 | 1,803,979 | 1,854,463 |
| Total... | 10,021,330 | 1,612,985 | 3,008,724 | 428,966 | 30,728,592 | 32,341,577 |

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As the bulk of the silver is exported in the form of silver-lead bullion and ore, it is impossible to ascertain the exact quantity of pure silver won until the product has been realised in London. A calculation based on figures given in the reports of the Broken Hill Proprietary Company warrants, however, the statement that the total value of £32,341,577, shown in the above table, was approximately made up of 148,711,735 oz. of pure silver, valued at £23,391,985, and of 698,610 tons of lead, valued at £8,949,592. Owing to the steady fall in the price of the metal, which had already set in before the opening up of the Broken Hill mines, and which, after a slight recovery in 1890, has been enormously accentuated by the closing of the Indian mints and the stoppage of purchases by the Government of the United States, the value of the output has greatly diminished. In 1890 the price of silver was still as high as 47¾d. per ounce standard; in 1893, when the Indian Mints were closed, the price was 35⅞d., and this dropped to 29d. in 1894; while in 1898 the average for the year was only 26 11/16d. per ounce, the slight recovery in 1895 and 1896 having been more than lost. An improvement, however, took place in 1899, the average for the year being 27½d. per ounce, and this was still further increased during 1900, when the average price obtained was the highest since 1896, viz., 28 5/16d. per ounce, ranging from 27 1/16d. early in January to 30⅛d. in October, the price being well maintained to the close of the year, when the quotation stood at 29⅝d. per ounce. In 1901, however, there was again a decline in price, the average for the year standing at 27 7/16d., ranging from a maximum of 29⅝d. in January to a minimum of 25 1/16d. in December. The fall partially paralysed the industry, necessitating the closing down of all but the largest mines. The price of lead also fell disastrously during 1901, the quotations dropping steadily from £16 2s. 6d. at the beginning of the year to £10 7s. 6d. for the last week in December.

The fall in the price of lead resulted in the closing down of several of the Barrier mines producing low-grade silver, as these could only be worked at a profit while the price of lead remained at a satisfactory figure. It has been estimated that the loss to the total mineral production of Australasia occasioned by the depreciation in silver and lead amounted to upwards of £800,000.

An attempt has been made to calculate the cost of producing an ounce of silver at the Broken Hill Proprietary Company's Mine since 1888. The process adopted has been to ascertain the weight of silver to which the lead in the ore is equivalent at the current price of each metal, to add to this the weight of silver contained in the ore, and to place the cost of production against the nominal weight of silver so ascertained. Thus, during the three working years ended May, 1891, the average yield of silver per ton of ore treated was 37·56 oz. The value of the lead obtained from the ore was £2·23, equal to about 11·02 oz. of silver at 48·62d. per oz. This quantity, added to 37·56 oz. gives a nominal result of 48·58 oz. The average cost of production was £4·05 per ton of ore, which for 48·62 oz. is equivalent to 20·03d.



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per oz. The average prices of these metals since 1888 were as shown below :—

| Period. | Price of Silver per oz. | Price of Lead per ton. |
|---|---|---|
| | d. | £ |
| June, 1888, to May, 1891..... | 48·62 | 13·90 |
| June, 1891, to May, 1893..... | 44·53 | 12·06 |
| June, 1893, to May, 1896..... | 33·13 | 11·85 |
| June, 1896, to May, 1899..... | 30·35 | 12·31 |

Adopting the empirical method explained above, the following table shows the cost of producing silver at Broken Hill during the same periods :—

| Period. | Cost of producing Silver per oz. |
|---|---|
| | d. |
| June, 1888, to May, 1891..... | 20·03 |
| June, 1891, to May, 1893..... | 21·58 |
| June, 1893, to May, 1896..... | 19·85 |
| June, 1896, to May, 1899..... | 24·38 |

The cost of raising and treating the ore has fallen during the eleven years from £4·05 to £2·19, while the cost of obtaining silver has increased from 20·03d. to 24·38d. per oz. The reason of this will be seen from the following table, which shows that the results per ton of ore have fallen from 37·56 oz. of silver and 3·21 cwt. of lead during the first three years to 21·98 oz. of silver and 1·51 cwt. of lead during the

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three years ended May, 1896, and to 15·05 oz. of silver and 1·33 cwt. of lead during the three years ended May, 1899 :—

| Period. | Results per ton of Ore. | | Cost of raising and treating 1 ton of ore. |
|---|---|---|---|
| | Silver. | Lead. | |
| | oz. | cwt. | £ |
| June, 1888, to May, 1891... | 37·56 | 3·21 | 4·05 |
| June, 1891, to May, 1893... | 30·13 | 2·39 | 3·41 |
| June, 1893, to May, 1896... | 21·98 | 1·51 | 2·35 |
| June, 1896, to May, 1899... | 15·05 | 1·33 | 2·19 |

The Broken Hill Proprietary Company has now ceased to publish figures by which the above tables can be further continued.

The number of miners engaged in silver and silver-lead mines in 1901 was 6,298, and the average value of mineral won, per miner engaged, was £294 9s. 1d. A comparison with the figures of the previous nine years is afforded by the following table :—

| Year. | Miners. | Value of Silver and Lead won. | |
|---|---|---|---|
| | | Total. | Per Miner. |
| | No. | £ | £ s. d. |
| 1892 | 5,889 | 2,477,836 | 420 15 2 |
| 1893 | 4,709 | 3,031,720 | 643 16 3 |
| 1894 | 4,208 | 2,289,489 | 544 0 2 |
| 1895 | 4,658 | 1,642,671 | 352 13 1 |
| 1896 | 5,555 | 1,785,451 | 321 8 3 |
| 1897 | 6,204 | 1,698,239 | 273 14 8 |
| 1898 | 6,396 | 1,704,055 | 266 8 6 |
| 1899 | 7,893 | 2,070,657 | 262 6 10 |
| 1900 | 8,196 | 2,604,117 | 317 14 7 |
| 1901 | 6,298 | 1,854,463 | 294 9 1 |

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The total number of accidents which took place in the silver-mines of the state in 1901 was 78, 23 persons losing their lives, while 55 were seriously injured. Cases of slight injury are not now recorded. These figures are comparatively high. As the result of a Government inquiry, it was stated that the incompetency of men who represent themselves as miners, and who have no real knowledge of the work, contributes not a little to the various mishaps, and it was found that the men are working under competent officers, who do everything possible that ability and practical knowledge can devise to prevent accidents. In most years the casualties form but a very small proportion of the persons engaged in silver-mining, while the elements of danger are great; and this must be taken as reflecting considerable credit on the management of the mines.

The world's production of silver during the ten years ended 1900 is estimated as follows:—

| Year. | Ounces. | Year. | Ounces. |
|---|---|---|---|
| 1891 | 137,171,000 | 1896 | 176,707,000 |
| 1892 | 152,940,000 | 1897 | 182,081,000 |
| 1893 | 162,162,000 | 1898 | 179,252,000 |
| 1894 | 178,668,000 | 1899 | 177,837,000 |
| 1895 | 182,220,000 | 1900 | 182,632,653 |

The output of New South Wales during 1900 was about 7 per cent. of the total production of silver.

## Tin.

Lode tin occurs principally in the granite country and stream tin under the basaltic formation in the extreme north of the state—at Tenterfield Emmaville, Tingha, and in other districts of New England. The metal has also been discovered in the Barrier District, at Poolamacca and Euriowie; near Bombala, in the Monaro district; at Gundle, near Kempsey; at Jingellic, on the Upper Murray; at Dora Dora, on the Upper Murray; and in the valley of the Lachlan; but in none of these districts has it been worked to any extent. Although the first discovery was made by the Rev. W. B. Clarke as far back as 1853, the opening of tin-

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fields did not take place until the year 1872. The value of production since that date has been as follows :—

| Year. | Value. | Year. | Value. | Year. | Value. |
|---|---|---|---|---|---|
| | £ | | £ | | £ |
| 1872 to 1876 | 1,032,483 | 1886 | 277,545 | 1895 | 87,937 |
| 1877 | 248,906 | 1887 | 311,889 | 1896 | 68,546 |
| 1878 | 214,613 | 1888 | 309,510 | 1897 | 49,900 |
| 1879 | 256,732 | 1889 | 207,670 | 1898 | 45,638 |
| 1880 | 354,252 | 1890 | 179,057 | 1899 | 90,482 |
| 1881 | 568,795 | 1891 | 133,963 | 1900 | 142,724 |
| 1882 | 541,413 | 1892 | 152,994 | 1901 | 57,232 |
| 1883 | 448,887 | 1893 | 126,114 | | |
| 1884 | 291,138 | 1894 | 85,264 | Total...£ | 6,582,494 |
| 1885 | 308,760 | | | | |

It will be seen that tin has contributed in a very considerable degree to the general development of the natural wealth of the state, and in point of value its aggregate production stands in the fourth place—next to gold, coal, and silver. From the opening of the fields the production increased rapidly down to 1881, when in value it exceeded the output of gold for the year, and was but slightly behind coal. In 1882 the production was valued at £541,413, being only £27,000 less than in 1891; but after that year, owing to protracted dry seasons, which in many cases prevented mining operations, combined with the comparatively low price which the metal brought, the value of the output fell considerably, and in 1898 only represented the small sum of £45,638. The high price obtained for tin had a stimulating effect upon the industry during 1899 and 1900, the production advancing to £90,482 in 1899, and £142,724—the highest since 1892—in 1900. This result is entirely due to the enhanced price of the metal, as the quantity of stream-tin and ore won is still far below the production of former years. During the ten years from 1888 to 1898 the metal was subject to an almost continuous fall in value, only realising in 1898 one-half the price that was obtained ten years before. The metal, however, has now made a great advance in price, the London quotations in December, 1899 and 1900, being £125 10s. per ton as compared with £82 in 1898, £63 in 1897, and £59 10s. in 1896. In 1901 the severe drought retarded washing operations, and the production fell to £59,232, or less than half that of 1900. Prices in London averaged £109 10s. at the close of the year.

Another cause of diminished production in the state is that the shallow deposits of stream-tin have to a great extent been exhausted. The deep deposits and the tin-lodes, however, have as yet scarcely been touched, nearly all the metal hitherto produced having been taken from alluvial deposits. After careful surveys Professor David has stated his belief that numbers of deep channels or leads, covered over by basalt, are still lying undisturbed; and the future of the industry in the state, with the improvement in the price of the metal, may be hopefully regarded. The principal leads worked during 1900 were at Tingha; at

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Elsmere in the Inverell district; at the Mann River, near Glen Innes; at Vegetable Creek, near Emmaville; at Deepwater; and at Wilson's Downfall. The only lodes worked are known as the Ottery. The mine is situated at Tent Hill, in the Emmaville District, and has been worked continuously for the last twenty years with very satisfactory results. Extensive crushing and smelting works have been erected for treating the ore, which is of a refractory nature, and about 60 persons are regularly employed. The first tin-dredging plant in New South Wales has been placed in position at Cope's Creek, in the Tingha division, where a company has secured 300 acres under lease. The plant is a hydraulic sluicing one, capable of treating 2,000 loads every 24 hours, and is expected to be in full working order early in 1901. The results of several trials have proved very satisfactory. Within the thirty years that have elapsed since the opening of the tin-fields, the value of the net export, which is taken as the production, has been £6,582,494.

In the alluvial tin-fields of Tingha and Emmaville, the number of Chinese engaged in this industry has in some years greatly exceeded that of the Europeans. In 1900, however, the Chinese at Emmaville numbered only 75, whilst the Europeans numbered 200; at Tingha, 300 Europeans and 150 Chinese were engaged in tin-mining. The total number of miners employed in tin-mining in the state was 1,413, viz., 1,050 Europeans and 363 Chinese, all of whom were employed in the Northern Districts. In 1901, 972 Europeans and 456 Chinese were engaged in the industry.

### Copper.

The principal deposits of this mineral are found in the central part of the state, between the Macquarie, Bogan, and Darling Rivers. Deposits have also been found in the New England and Southern districts, as well as at Broken Hill, showing that the mineral is widely distributed. The copper-mining industry, which at one time was of considerable importance, reached its highest point of production in 1883, when the output was valued at £472,982. From that year, however, the industry rapidly declined, in consequence of the heavy fall in the price of the metal; indeed, the very low figure reached deterred many from embarking in operations which showed every promise of success, while some of the mines which had been worked for many years were closed. In 1894 the production was only valued at £63,617. The principal difficulty, common to other branches of the mining industry, lay in the great distance of some of the chief copper-mines from the port of shipment, and the consequently heavy cost of land carriage. The year 1894, however, saw the lowest point of depression in the copper market. Prices steadily increased during the next five years, the advance in the value of the metal being well sustained in 1900. In 1901, however, prices greatly declined, the quotations for the closing week of the year being £49 15s., as against

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£73 for the week ending January 3. Copper-mining in Australia is now progressing satisfactorily, the production in New South Wales in 1901 being the highest recorded since 1883. The value of the output for the year is set down at £430,824, showing an increase of about £5,600 when compared with the production of the previous year. The copper-lodes of New South Wales contain ores of a very much higher grade than those of many well-known mines worked at a profit in other parts of the world, and, with a fair price, should return satisfactory results. Mines which could not be profitably worked a few years ago have been re-opened ; and a considerable amount of capital has been expended in the erection of new machinery. The net export of copper, which is taken as the production of the state, is shown below from the year 1859 :—

| Year. | Value. | Year. | Value. |
|---|---|---|---|
| | £ | | £ |
| 1859 to 1876 | 408,071 | 1890 | 84,107 |
| 1877 | 127,396 | 1891 | 119,195 |
| 1878 | 209,030 | 1892 | 114,559 |
| 1879 | 210,623 | 1893 | 73,287 |
| 1880 | 268,700 | 1894 | 63,617 |
| 1881 | 257,884 | 1895 | 136,969 |
| 1882 | 182,473 | 1896 | 197,814 |
| 1883 | 472,982 | 1897 | 283,174 |
| 1884 | 362,287 | 1898 | 272,686 |
| 1885 | 170,993 | 1899 | 395,451 |
| 1886 | 122,990 | 1900 | 425,301 |
| 1887 | 115,444 | 1901 | 430,824 |
| 1888 | 247,304 | | |
| 1889 | 122,444 | Total ...£ | 5,875,605 |

The more important mines are those of Cobar, where the Great Cobar mine, which recommenced work early in 1894, raised in the following year 37,845 tons of ore, yielding 1,703 tons of smelted copper; in 1896, 66,431 tons of ore, yielding 2,650 tons of smelted copper, valued at £107,200; and in 1897, 64,820 tons of ore, yielding 2,462 tons of smelted copper, valued at £108,306. Similar information for subsequent years is not available, but in the division of which the Great Cobar is the principal mine, 3,514 tons of refined copper, valued at £178,900, were obtained during 1898, and 3,794 tons, valued at £265,580, in 1899. During 1900, the total quantity of copper-ore raised was 111,783 tons, which yielded 3,538 tons of refined copper, valued at £251,460, 8,462 oz. of gold, valued at £33,848, and 60,112 oz. of silver, valued at £6,762 ; the total value being £292,070. It may be mentioned that the copper extracted from this mine is found to contain gold more than sufficient to pay for mining and treating the ore. The syndicate to which the mines belong now gives employment to about 700 men.

In other portions of the Cobar district considerable activity has been displayed. At Nymagee good developmental work was done, and

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copper to the value of £38,290 was produced during 1900, while in the Mount Hope division the output of refined copper amounted to 241½ tons, valued at £25,830.

In 1899, the Burraga copper-mine was acquired by an English company, and great improvements and additions were effected in the plant and machinery. During 1900, 15,183 tons of ore were raised, of which 9,083 were smelted, giving a return of 667 tons of copper, valued at £48,690. It is estimated that the balance of the ore raised contains 243 tons of copper, valued at £7,740.

During the year the great Cobar mine developed extensive and important ore bodies at a much lower depth than previously worked. At the Nymagee mine recent operations have also proved the existence of the copper deposit at much lower depths, so that the increased output from this district should be maintained.

The total number of miners engaged in copper-mining in 1901 was 2,964, as against 3,334 in 1900, 2,369 in 1899, 1,976 in 1898, and 1,710 in 1897. As showing the revival in the industry, it may be mentioned that the number of men finding employment in 1896 was only 810; in 1895, 868; in 1894, 645; and in 1893 the small number of 283. There were four fatal accidents recorded in copper-mines in 1900; nine miners met with serious accidents, and thirteen others suffered slight injuries.

## Iron.

Iron is widely diffused throughout the state, and occurs principally in the form of magnetite, brown hematite or goethite, limonite, and bog-iron. Deposits of chrome iron are also found. Magnetite is the richest of all the iron ores, and when pure contains a little over 72 per cent. of available metallic iron, though it is not often found reaching this very high percentage. These ores are widely distributed throughout New South Wales. The results of a number of analyses made from deposits at Brown's Creek, in the county of Bathurst, where veins were opened out a few years ago, show that the samples of ore yielded from 48·83 to 61·30 per cent. of metallic iron. At Wallerawang, a variety of garnet, containing a large percentage of metal, occurs in conjunction with the ore in the veins, which is described as "extremely well adapted for reduction in the blast furnace." Brown hematite or goethite occurs in very extensive deposits in the Blue Mountain and Macquarie Ranges, the principal centres so far explored being situated at Mittagong, Picton, Berrima, Cadia (near Orange), Lithgow Valley, Wallerawang, in the Rylstone and Mudgee Districts, and in the vicinity of Port Stephens. The result of a number of analyses of this kind of ore denotes that it is very rich in metallic iron, containing a proportion of 42·69 to 64·48 per cent., and in the majority of cases over 45 per cent. of metal. A sample of hematite from the Maitland district contained 60·83 per cent. of metallic iron. A sample of brown hematite from Mount Pleasant, near Wollongong, analysed during 1891, gave 54·28 per cent. of iron. The value of these deposits is enhanced by

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their almost invariable occurrence in proximity to limestone and coal-beds. It is fortunate, also, that the main lines of railway pass through the regions where the deposits are most easily worked.

Limonite—a variety of brown hematite—occurs principally at Lithgow, Eskbank, and Bowenfels, in the Blue Mountains; in several parts of the Hunter River coal-field; and at Bulli, in the Illawarra District. This ore is usually found very rich in metal, and contains an average of over 50 per cent. of iron; while the English clay bands, which are mostly carbonates, only contain about 30 per cent. of metallic substance. It occurs in lenticular layers of no great extent, in the Coal Measures. Bog-iron-ore, which is impure limonite, is found principally at Mittagong; and assays of this ore gave an average percentage of metal of more than 45 per cent.

The deposits at Carcoar include brown ore, hematite, and magnetite, and are so extensive that it is estimated that there is sufficient ore in sight to keep a furnace, consuming 2,000 tons of ore per week, in blast for 25 years. The ore contains from 52·67 to 65·22 per cent. of metallic iron, and it is stated that it could be smelted at Lithgow at a cost not exceeding £2 8s. per ton, inclusive of carriage. At Lithgow there is an abundance of cheap coal, and good limestone can also be obtained in large quantities in the locality.

The following table gives the description and estimated quantity of iron-ore available in the various districts of New South Wales where the deposits occur:—

| District. | Description of Ore. | Estimated minimum quantity of Ore. |
|---|---|---|
| | | Tons. |
| Bredalbane | Brown ore and hematite | 700,000 |
| Cadia | Specular hematite, magnetite, and carbonate ore | 39,000,000 |
| Carcoar | Hematite and brown ore | 3,000,000 |
| Chalybeate Spring—Deposits of Southern District. | Brown ore | 1,510,000 |
| Cowra (Broula) | Magnetic ore | 100,000 |
| Goulburn | Brown ore | 1,022,000 |
| Gulgong | Magnetic ore | 120,000 |
| Mandurama and Woodstock | Brown ore | 609,000 |
| Marulan | Brown ore and hematite | 40,000 |
| Mudgee | Brown ore with manganese | 150,000 |
| Newbridge, Blayney, and Orange | Brown ore and magnetic ore | 150,000 |
| Queanbeyan (Paddy's Point) | Magnetic ore | 1,000,000 |
| Rylstone and Cudgegong | Brown ore | 443,000 |
| Wallerawang and Piper's Flat | Brown ore | 200,000 |
| Williams and Karuah Rivers | Titaniferous magnetic ore | 1,973,000 |
| Wingello | Aluminous ore | 3,000,000 |
| | Total | 53,017,000 |

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It will be seen from the above that the Cadia ironstone beds—14 miles from Orange—have proved the most extensive yet examined. The ore comprises two classes, oxidised and unoxidised, the former of which consists of hematite and magnetite, and contains from 57 to 65 per cent. of metallic iron. The ore is suitable for the manufacture of steel by the ordinary Bessemer and other acid processes, and compares favourably with some of the best American ores.

None of the other states, with the exception of Tasmania, possesses deposits of iron-ore approaching in extent or richness those of New South Wales. It is therefore probable that at some future time this state will become the great seat of the iron industry of Australia. The chief obstacle in the way of development of the industry, even where the coal necessary for smelting the ore can easily be obtained, has been the relation of cost to market value. Pig iron and its manufactures have been imported more cheaply than it was possible to produce them locally, and therefore despite the efforts made from time to time to stimulate the industry little has been accomplished. Recently, however, in spite of the increased production consequent on the advance in prices in England, Europe, and America, there has been such an expansion in consumption that the opportunity seems favourable for working the extensive deposits of iron ore in New South Wales and the neighbouring states. Iron and coal constitute the basis of all large industries and manufactures, and where, as in New South Wales, the iron ore is to be found in close proximity to the coal necessary for smelting, the locally produced article should be cheaper than the imported. It has been stated that iron can be produced at a cost ranging from £2 10s. to £3 10s. per ton; it is reasonable therefore to hope for a development of the industry in the near future. As illustrating the present extent of the supply required, the following table, showing the value of all descriptions of iron, machinery, and iron manufactures imported into the various states and New Zealand during the five years, 1896–1900, has been compiled :—

| State. | 1896. | 1897. | 1898. | 1899. | 1900. | Average Yearly Import 1896–1900. |
|---|---|---|---|---|---|---|
| | £ | £ | £ | £ | £ | £ |
| New South Wales | 1,957,143 | 2,398,701 | 2,358,263 | 2,810,932 | 3,528,927 | 2,610,793 |
| Victoria | 1,194,976 | 1,543,527 | 1,382,471 | 1,739,836 | 1,903,017 | 1,552,766 |
| Queensland | 848,871 | 938,579 | 994,791 | 1,187,284 | 1,335,490 | 1,061,003 |
| South Australia | 536,632 | 639,174 | 688,160 | 736,624 | 798,962 | 679,910 |
| Western Australia | 1,052,135 | 1,305,772 | 1,155,962 | 1,107,917 | 1,490,266 | 1,222,410 |
| Tasmania | 155,813 | 218,671 | 337,934 | 304,531 | 381,044 | 279,599 |
| Commonwealth | 5,745,570 | 7,044,424 | 6,917,581 | 7,887,124 | 9,437,706 | 7,406,481 |
| New Zealand | 1,095,206 | 1,668,593 | 1,763,870 | 1,839,232 | 2,347,669 | 1,742,914 |
| Australasia | 6,840,776 | 8,713,017 | 8,681,451 | 9,726,356 | 11,785,375 | 9,149,395 |

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The average yearly import for the five years covered by the above statement amounts to £2,610,793 for New South Wales, and £7,406,481 for the states comprising the Commonwealth, and including New Zealand, £9,149,395 for Australasia. The quantity of pig-iron required to produce the material represented by these values is approximately 188,000 tons per annum for New South Wales, 535,000 tons for the Commonwealth, and 660,000 tons for Australasia.

A survey of all the known deposits has recently been carried out, and the result proves conclusively that the available supplies of iron ores are far more extensive than was previously anticipated. It is estimated that the minimum quantity of ore in sight is 53 million tons, of which 42 million tons occur in the deposits at Cadia and Coombing Park, in the Carcoar district.

For many years the establishment of iron smelting works in New South Wales has been spoken of, and in 1890 public attention in England was drawn to the possibility of manufacturing iron locally, and a mining expert was sent out from that country to inspect the iron, lime, and coal deposits, and to report upon the probable cost of establishing the industry in the state, but the visit was without result, although the report is believed to have been favourable. The iron ores at Carcoar were not inspected by the expert, and it is stated that these deposits, through their extent, quality, and proximity to coal and limestone are the most important in New South Wales. In 1897 it seemed as if the project for establishing works for the manufacture of iron would take practical shape, and negotiations for the promotion of a company in England were well under way when they were interrupted by the death of the prime mover. Recently a proposal was made by the Blythe River Iron Company of Tasmania for the erection of large iron and steel smelting works at Sydney, provided that the State Government agreed to take 100,000 tons of steel rails, during a period of four years. The proposal was not carried out for various reasons, but mainly on account of the price to be paid being subject to market fluctuations in Great Britain and America. The Government has since received three private offers for the manufacture of steel rails. One is from a combined local and English firm, the second from the Blythe River Company, and the third from an American syndicate. Nothing, however, will be done in the matter until the federal tariff has been decided upon. It is still hoped that some practical result will follow; but, in any case, the foundation of the industry is a mere matter of time, for the natural facilities of New South Wales for the manufacture of iron are unsurpassed.

The first iron works in New South Wales were established in 1852 at Fitzroy, near Mittagong, where there are several deposits of excellent brown ore, or limonite, which owe their origin to chalybeate springs. Coal seams underlie the deposits, and limestone is obtainable within 40 miles. Smelting operations were carried on intermittently, and some pig-iron was produced, but in 1855 the works were closed down

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as the undertaking was unprofitable. They were re-opened in 1864, and during this and the two following years considerable progress was made. A quantity of iron was produced, and many castings were made. Amongst the latter were gas-pipes, bridge cylinders, and girders, which were made from iron smelted from the ore, and taken direct to the mould, without first making it into pig-iron. In 1875 the works were taken over by the Bessemer Steel and Haematite Iron and Coal Company, but after producing 3,242 tons of pig-iron, operations were discontinued. Some samples of ore, coal, and limestone obtained in this district, with pig-iron and castings manufactured therefrom, were exhibited at the late Mining Exhibition in London, and obtained a first award. Works for the manufacture of iron from the ore were established at Eskbank, near Lithgow, where red siliceous ore, averaging 22 per cent., and brown hematite, yielding 50 per cent. of metallic iron, were successfully treated. Abundance of coal and limestone are found in the neighbourhood. Smelting operations were commenced in October, 1875, and about 22,000 tons of pig-iron were produced. This establishment, however, has for some time abandoned the manufacture of pig-iron, for which it was originally built. The work now carried on consists of the re-rolling of old rails, and the manufacture of iron bars, rods, and nails, and of ordinary castings. The quantity manufactured from scrap during 1900 was 7,737 tons, valued at £95,000. During the year a Siemens steel furnace was added to the works, and in this furnace steel was produced for the first time in the state. Large quantities of iron ore have been raised from the deposits situated in the Marulan, Goulburn, Bredalbane, Mittagong, and Carcoar districts and despatched to the smelting-works at Dapto and Cockle Creek, where it has been used as flux, the gold contents of the ore helping to defray the extra cost of railway carriage. During 1900, 13,146 tons of ironstone, valued at £10,945, were raised and sent away from Coombing Park, Carcoar, Marulan, Picton, and Peak Hill, as compared with 10,521 tons, valued at £8,417 in 1899. The new industry is giving employment to a large number of men. Parcels of iron oxide have also been sent from the Fitzroy and other ironstone deposits in the Mittagong district to the various gas-works of the Australian States and New Zealand, where it is used in purifying gas.

### Antimony.

Deposits of antimony occur in the state in various places, chiefly in the Armidale, Bathurst, and Rylstone districts; and at Bowraville on the North Coast. The principal centre of this industry was at Hillgrove, near Armidale, where the Eleanora Mine, one of the richest in the state, is situated. The output during 1900 was largely confined to this district, where the metal is found associated with gold. The Eleanora Company raised 2,141 tons of ore, which yielded 1,879 ounces of gold, valued at £6,425, and 144 tons of concentrates, valued at

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£1,822. At the Garibaldi Mine, in the same district, 630 tons of ore were mined, of which 130 tons, assaying 1 ounce of gold and 40 per cent. of antimonial metal to the ton, were sent to England as a trial shipment. The results of a number of analyses of antimony ore, made by the authorities of the Geological Museum, show from 16·5 to 79·45 per cent. of metal; but, notwithstanding these encouraging assays, the price has never been sufficiently high to stimulate production to any extent. A considerable quantity of ore was raised some years ago at the Corangula mines, in the Macleay district, but operations have been suspended for the time being at these mines. Lodes have also been opened and partly worked near Nambucca, Drake, Gulgong, and Razorback. The value of antimony raised during 1901 was £1,183, and up to the end of that year, £194,233.

## Manganese.

Deposits of manganese ore have been discovered in various parts of New South Wales. Pyrolusite, in the form of black oxide and manganese dioxide, occurs principally in the Bathurst districts and at Bendemeer. Wide veins have also been found in the Glen Innes district, near the Newton-Boyd road. Some of the specimens analysed have yielded a very high percentage of metal; but the demand for manganese in the state is very trifling, and until a foreign market is found, or local manufactories requiring the metal spring up, the rich deposits of this ore will remain comparatively untouched. The ore is found extensively in conjunction with iron in coal and limestone country, and often contains a small percentage of cobalt. The quantity of manganese ore raised during 1900 was only 18 tons, valued at £46, and was obtained by prospectors at Moonabah, near Kempsey, the ore assaying between 50 and 60 per cent. of metal. At Moonbi, in the Tamworth district, 160 acres have been applied for to work a manganese and iron deposit, and there are indications of the establishment of a permanent industry.

The value of the manganese raised to the end of 1901 is set down at £1,401.

## Bismuth.

Bismuth is found associated with molybdenum and gold, in quartz-veins, in the neighbourhood of Glen Innes, whence the quantity raised has been chiefly obtained. The principal mines are situated at Kingsgate, where the mineral occurs in a granitic formation, associated with molybdenum, mispickel, and tin; but at the present time they are practically closed, as there is only a limited demand for the metal, and the market is uncertain. The total quantity of this metal exported during 1900 was 11 tons, valued at £5,640, being an increase in value of £2,285 on the previous year. The bulk of the bismuth was raised by the Jingera Mineral Proprietary Company in the Pambula district,

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576 tons of ore being treated for 10 tons of metal. A small quantity of concentrates was produced at the "Old Nanima" Mine, in the Yass district. It is stated that in the Nymagee district promising indications of payable deposits have been found, but no steps have been taken to open them up. Rich argentiferous ores have been obtained in the Great Jingera silver-mine, the lodes consisting of soft granular felspar matrix, impregnated with blotches of bismuth, molybdenum, and chloride of silver. The largest mass of native bismuth yet discovered in the state weighed nearly 30 lb., and was obtained in the Kingsgate mine. The value of this metal exported up to the end of 1901 was £63,185.

## Platinum.

Platinum and the allied compound metal Iridosmine have been found in New South Wales, but so far in inconsiderable quantities, the latter occurring commonly with gold or tin in alluvial drifts. Beach mining in the Ballina district, where platinum was associated with gold in considerable quantities, is now a thing of the past. The metal has also been discovered at Fifield, in the Parkes district, and in lodes near Broken Hill and Orange. Mining operations were confined in 1900 to the Fifield goldfield, where the metal is found associated with the gold in washdirt. The total yield of platinum for the year was 530 oz., as compared with 638 oz. in 1899. Mining on this field is handicapped by a scarcity of water, and, although a considerable amount of prospecting was done, the results were not satisfactory to the miners, and many, in consequence, left the district. The Fifield platinum occurs in coarse, shotty grains, and is much purer than that obtained from the northern beach-sands. The quantity of platinum produced during 1901 was valued at £779, and to the end of that year, £13,211.

## Chromium.

Chromium is found in the northern portion of New South Wales, in the Clarence and Tamworth districts, and also near Gundagai. It is usually associated with serpentine. The chrome mining industry is of very recent date, although an attempt was made in 1882 to open up deposits at Bowling Alley Point, in the Peel River district; and in 1891 and 1895 in the Clarence River district. The first successful mining operations were carried out near Coolac, in the Gundagai district, 2,000 tons of ore being despatched in 1894 and 1895; and although numerous discoveries of chromite followed, the Gundagai-Tumut district has remained the only scene of profitable mining enterprise. The exports of chrome ore in 1894, 1895, and 1896 amounted to 3,034 tons, 4,299 tons, and 3,852 tons respectively; but the low price obtainable has prejudicially affected the industry, and although in 1897

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the export still amounted to 3,379 tons, valued at £10,269, a considerable portion of this was raised in previous years. The production in 1898 decreased to 2,111 tons, valued at £6,301. During 1899, however, 5,243 tons, valued at £17,416, were produced. This quantity is the highest recorded as the annual output. In 1900 the production fell to 3,285 tons, valued at £11,827, the decrease being due to the exhaustion of the smaller deposits, and in 1901 the quantity raised was valued at only £7,774. The industry is still confined to the Gundagai district, where the ore abounds. The principal mine is at Mount Lightning, in the Mooney Mooney ranges, about 18 miles from Gundagai. The value of chrome iron ore won to the end of 1901 was £90,576.

### Other Metals.

Mercury, in the form of cinnabar, has been discovered on the Cudgegong River, near Rylstone, and it also occurs at Bingara, Solferino, Yulgilbar, and Cooma. In the latter place the assays of ore yielded 22 per cent. of mercury. Very large and rich deposits have been found on Noggriga Creek, near Yulgilbar. During 1899, a deposit of cinnabar, yielding a high percentage of quicksilver, was found near Lionsville, in the parish of Ewengar, county Drake. Prospecting operations were continued in 1900, and proved the occurrence of extensive deposits, but of a lower grade. The ore is being sent to Sydney for treatment pending the erection of the necessary plant. As an encouragement in the search for quicksilver ores, the Department of Mines has offered to pay a reward of £500 to the first person or company producing 50,000 lb. of quicksilver from ores raised in New South Wales.

Deposits of cobaltiferous minerals have been found at Bungonia, Carcoar, and Port Macquarie; but the market for the metal is small, and no attempt has yet been made to produce it on any large scale. The only deposits worked at present are at Port Macquarie, where the ore occurs in nests or pockets in serpentine and the overlaying clays resulting from its decomposition. An average sample assayed cobalt oxide 7·48, and nickel oxide 1·36, and a picked sample showed cobalt oxide 7·03, and nickel oxide 2·39 per cent. The production of cobalt during 1901 was valued at £1,051, as against £1,590 for the preceding year. The value of the total production to the end of 1901 was £6,021.

Tellurium has been discovered at Bingara and other parts of the northern districts, as well as at Tarana, on the Western Line, though at present only in such minute quantities as would not repay the cost of working. It has also been found at Captain's Flat, in association with bismuth.

Selenium has been discovered at Mount Hope, also in association with bismuth.

Wolfram and scheelite, generally associated with other minerals, such as tinstone (cassiterite), bismuth, and molybdenite, occur in many parts

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of New South Wales. The deposits as a rule have been found too patchy for profitable working, and as the market is limited, very little has been done in the way of production. The steady demand that has existed during the last few years for tungsten ores has, however, stimulated the search for payable deposits, especially in the Peel and Uralla and New England districts. Scheelite was produced in the Hillgrove district during 1900, the ore being of good quality and carrying from 50 to 60 per cent. of tungstic acid. Wolfram ore to the value of £132 was obtained during the year in the vicinity of Deepwater and Emmaville, but although there appears to be a better demand and price for tungsten minerals, and prospecting is still being carried on for further deposits, there are no indications that the output is likely to be increased to any extent in the near future, as the ore was won in small quantities and from scattered patches. The total value of tungsten ores exported during the year amounted to £1,913.

Zinc is usually found associated with silver, lead, and copper, and various experiments are being made for the profitable extraction of the metal. During the last few years attention has been directed by the Broken Hill Proprietary Company to the production of a high grade zinc concentrate from the sulphide ores, and experiments are still in progress with magnetic separators of various types to determine the best method of treating the immense bodies of zinc tailings, carrying lead and large quantities of silver. The results so far indicate a successful issue to the difficulty hitherto experienced, and it is anticipated that before very long a process for the elimination of the rhodonite and zinc will be perfected. The value of the zinc produced during 1901 was £4,057, as against £44,187 in 1900, £49,207 in 1899, and £28,914 during 1898. The total production to the end of 1901 was valued at £161,123.

Deposits of pigments are found near Mudgee and Dubbo, and also in the Orange district, where a fair quantity of the raw material, consisting principally of purple oxide and yellow ochre, has been produced.

## Non-Metallic Minerals—Coal.

Among the varied mineral resources of New South Wales, coal is perhaps the most important, for not only is the quality of the mineral superior to that found in the other states, but the carboniferous formations are of much greater extent than in any other part of Australia. The area over which the mineral is distributed in this state has been computed at 23,950 square miles, but the limit within which the coal measures are considered productive is set down at 16,550 square miles, and the Government Geologist has estimated the quantity of coal underlying this area, down to a depth of 4,000 feet, at 115,347 million tons. This estimate allows for one-third loss in working, but no account

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has been taken of the coal measures of the Clarence basin, or of the area to the west of a line stretching from Dubbo to Texas. The coal in these districts is probably suitable for local requirements, but its quality is not sufficiently good for purposes of export, and it would be expensive to work by reason of the numerous bands of shale which occur in the seams.

At present the coal-mining industry is confined to those centres which, from their close proximity to ports of shipment or the railway lines afford ready means for the disposal of the commodity when raised.

Coal was first discovered in New South Wales in the year 1797 near Mount Keira, in the Illawarra district, by a man named Clark, supercargo of the "Sydney Cove," while he was endeavouring to reach Sydney by way of the coast after the wreck of that vessel in Bass Straits. Later in the same year Lieutenant Shortland discovered the River Hunter, with the coal-beds situated near its mouth, and mining operations in this district, begun in 1826, have reached large dimensions.

The deposits which have been found in the Blue Mountains, near the line of railway which runs along their crest, at Katoomba, Lithgow, Wallerawang, and elsewhere, now supply a portion of the requirements of Sydney and other industrial centres in its neighbourhood, as well as part of the western district of the state. Coal is also mined at Berrima and other places in that district, whence a large quantity of the coal consumed in the southern districts of the state is obtained. Some years ago the diamond-drill was used at Cremorne Point, near Mosman's Bay, for the purpose of ascertaining whether coal existed beneath the metropolis. A depth of 3,095 feet was reached, the deepest bore yet put down in Australia. Coal was met with, but the work was discontinued, as there was every reason to believe, from the position of two doleritic dykes met with, that a volcanic disturbance, such as is often found in the southern coal-fields, had occurred at that particular spot. It was considered to have been proved that the Illawarra coal measures extended under Sydney, and it was resolved to put down another bore about half a mile distant from the previous one, and midway between the two dykes. The new bore-hole was the largest ever attempted in Australia, the boring-bit being 5½ in. in diameter, and capable of bringing up a 4⅛-in. core. A commencement was made with this work at the end of 1891, and, after carrying the bore down to a depth of 2,929 ft., a very valuable discovery of good steam coal was made. The seam is 10 ft. 3 in. in thickness, 9 ft. 2 in. of it being workable. A company to work the mine was floated in London with a nominal capital of £300,000, and sinking operations were commenced in June, 1897, on the shores of Long Cove, Balmain. On the 21st November, 1901, coal was reached at a depth of 2,880 feet. A coal seam 6 ft. 6½in. thick has been found on the Moorbank Estate, near Liverpool, at a depth of 2,583 ft. Coal has also been found in the Clarence series, though it has not yet been worked commercially. Three seams have been proved at Coraki, on the Richmond River.



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Several parties have exploited this district for coal, and at the mine at Aberdare 150 tons of good coal have been obtained from a seam 6 ft. thick.

In 1826, the Australian Agricultural Society obtained a grant of 1,000,000 acres of land, together with the sole right, conferred by charter, of working the coal-seams which were known to exist in the Newcastle district. Several mines were opened up, and profitably worked for a number of years; but it was not until the expiration, in 1847, of the monopoly enjoyed by the company, that the coal-mining industry showed signs of extensive development. During the year named the output of coal only reached the total of 40,732 tons, of the value of £13,750. Six years afterwards the production had been doubled, and the output of this mineral has rapidly increased year by year, until coal-mining is now one of the staple industries of the state, the production for the year 1901 amounting to 5,968,426 tons, valued at £2,178,929. This quantity is the highest annual output recorded, and owing to the increased price of the mineral in 1901 the value of the production is also the highest yet attained. The total production to the end of the year 1901 was 97,445,059 tons, valued at £39,494,844. Newcastle, the centre of the coal trade, is singularly well fitted by situation to become the port of supply for all the countries of the southern seas. Every week coal-laden vessels leave its wharves, not only for the Australian States, but for New Zealand China, India, the Pacific Slope of North and South America, Mauritius, the Cape of Good Hope, and other lands. Every provision has been made by the Government for shipping coal, and over two miles of wharves, furnished with cranes and shoots capable of loading over 25,000 tons per day, line its shores. The markets of the states are likewise supplied with quantities of excellent coal from the seams worked in the Illawarra district, and the product of the southern collieries is also exported in large quantities.

The number of coal-mines under inspection in New South Wales at the end of the year 1901 was 96. They gave employment to 12,191 persons, of whom 9,644 were employed under ground, and 2,547 above ground. The average quantity of coal extracted per miner was 619 tons, as against an average of 612 tons for the previous year, and 559 tons for 1899. The low average of 368 tons, for 1890, is accounted for by the strike that occurred during that year; but a tendency to decline had been exhibited since 1882, when the average per miner was 578 tons. During the last seven years, however, the miners have been able to work better time, and the average production per man has greatly increased, as the comparison shows.

Below will be found the quantity of coal raised in New South Wales and the number of coal-miners employed, during each of the last ten years. Calculated on the total value of the coal produced during the decade, the average quantity of 530 tons extracted yearly by each person employed underground represents a value of £166 11s. 8d., and for the

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total number of persons employed, 428 tons, valued at £134 10s. 6d. In 1900 the average value of production was £185 8s. 8d. for each person employed underground, and £147 5s. 3d. for each person employed in any capacity about the mines :—

| Year. | Persons employed in and about mines. | Persons employed underground. | Quantity of Coal raised. | | |
|---|---|---|---|---|---|
| | | | Total. | Per person employed in and about mines. | Per person employed underground. |
| | No. | No. | tons. | tons. | tons. |
| 1892 | 10,514 | 8,624 | 3,780,968 | 360 | 438 |
| 1893 | 10,028 | 8,267 | 3,278,328 | 327 | 396 |
| 1894 | 9,131 | 7,461 | 3,672,076 | 402 | 492 |
| 1895 | 9,022 | 7,438 | 3,738,589 | 414 | 503 |
| 1896 | 9,233 | 7,538 | 3,909,517 | 423 | 519 |
| 1897 | 9,626 | 7,831 | 4,383,591 | 455 | 560 |
| 1898 | 10,258 | 8,192 | 4,706,251 | 459 | 574 |
| 1899 | 10,339 | 8,217 | 4,597,028 | 445 | 559 |
| 1900 | 11,333 | 9,000 | 5,507,497 | 486 | 612 |
| 1901 | 12,191 | 9,644 | 5,968,426 | 489 | 619 |
| Average for 10 years | 10,168 | 8,221 | 4,354,227 | 428 | 530 |

It is satisfactory to note that the industry has at last fully recovered from the effects of the strikes in 1887 and 1890, which not only caused a temporary suspension of trade, and deprived the state of the benefit of hewing and handling some 600,000 tons of coal, but induced buyers to seek other markets for the supply of their requirements. Among other things, this promoted the development of the coal-mines in Japan, where, owing to the cheapness of labour, coal can be produced, though possibly of inferior quality, at a price which makes it a formidable competitor with Australian coal. Still, despite competition, the export of New South Wales in 1900, both to foreign ports and to the other states, was the highest on record, and there is little doubt that future years will see a great expansion in the industry. Another satisfactory feature of the trade in 1900 was an increase to the extent of over 340,000 tons in the quantity taken for home requirements, a result indicative of greater industrial activity. The large increase is undoubtedly due to the quantities now used at the smelting works at Dapto and Cockle Creek.

*Northern District.*—In the Northern or Hunter River District the number of collieries under official inspection in 1900 was 64, employing a complement of 8,555 persons, 6,817 of whom were miners, wheelers, etc., employed underground. The quantity of coal raised amounted to 3,926,584 tons, valued at £1,246,011, or over 71 per cent. of the whole production of New South Wales. This is an increase of 666,876 tons

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on the figures of the previous year, and 570,984 tons more than the output of 1898, the previous record production.

The following table shows the growth of the coal industry within the last ten years in the Hunter District. The quantity of mineral raised and the number of persons employed steadily increased up to the year 1888, when the production was interfered with by strikes; both the number of men employed and the quantity of coal raised have fluctuated since. The output in 1900, however, was higher than in any previous year, exceeding that for 1899 by 666,876 tons:—

| Year. | Persons employed in and about mines. | Persons employed underground. | Quantity of Coal raised. | | |
|---|---|---|---|---|---|
| | | | Total. | Per person employed in and about mines. | Per person employed underground. |
| | No. | No. | tons. | tons. | tons. |
| 1891 | 8,309 | 6,732 | 2,853,252 | 343 | 424 |
| 1892 | 8,204 | 6,783 | 2,611,732 | 318 | 385 |
| 1893 | 7,872 | 6,503 | 2,203,480 | 280 | 339 |
| 1894 | 7,077 | 5,773 | 2,605,143 | 368 | 451 |
| 1895 | 6,777 | 5,605 | 2,631,222 | 388 | 469 |
| 1896 | 6,941 | 5,697 | 2,623,016 | 378 | 460 |
| 1897 | 7,229 | 5,925 | 3,176,869 | 439 | 536 |
| 1898 | 7,767 | 6,247 | 3,355,600 | 432 | 537 |
| 1899 | 7,815 | 6,249 | 3,259,708 | 417 | 522 |
| 1900 | 8,555 | 6,817 | 3,926,584 | 459 | 576 |

*Southern District.*—In the Southern District there were in 1900 fifteen collieries under official inspection, giving employment to 2,324 persons, of whom 1,802 were at work underground. These numbers exhibit an increase of 203 persons employed in and about the mines, and of 166 underground workers, as compared with those so engaged in 1899. There was also an increase of 145,552 tons in the production, the total quantity raised during the year being 1,265,055 tons, valued at £344,812—the largest output known in one year in the district. The next highest figures are those for the previous year, when 1,119,503 tons were raised. Owing to the demand for Southern coal for steam purposes, the trade of this district has greatly increased during the past few years. The increase would doubtless have been more pronounced but for the difficulty experienced in loading. To meet the claims of this district, the Government is making a harbour at Port Kembla, a few miles south of Wollongong, by constructing, in the first instance, a breakwater. There are already two jetties from which coal is shipped, but they are exposed to the full force of the south-easterly and easterly gales that constantly sweep up the coast, and at such periods the shipment of cargo has to be abandoned. With the breakwater, it is believed that there will be complete protection for shipping, and vessels will be in a position to load at all times.

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The history of coal production in the Southern district for the last ten years may be gathered from the following table:—

| Year. | Persons employed in and about mines. | Persons employed under-ground. | Quantity of Coal raised. | | |
|---|---|---|---|---|---|
| | | | Total. | Per person employed in and about mines. | Per person employed under-ground. |
| | No. | No. | tons. | tons. | tons. |
| 1891 | 2,007 | 1,550 | 837,873 | 417 | 541 |
| 1892 | 1,860 | 1,469 | 932,873 | 502 | 635 |
| 1893 | 1,851 | 1,503 | 884,470 | 478 | 588 |
| 1894 | 1,755 | 1,443 | 867,064 | 494 | 601 |
| 1895 | 1,949 | 1,586 | 916,503 | 470 | 578 |
| 1896 | 1,894 | 1,506 | 1,008,377 | 532 | 670 |
| 1897 | 1,984 | 1,562 | 918,862 | 463 | 588 |
| 1898 | 2,067 | 1,596 | 1,068,367 | 517 | 669 |
| 1899 | 2,121 | 1,636 | 1,119,503 | 528 | 684 |
| 1900 | 2,324 | 1,802 | 1,265,055 | 544 | 702 |

*Western District.*—In the Western District, in 1900, there were 21 collieries under official inspection, giving employment to 454 persons, of whom 381 were at work underground. From the subsequent table, it will be seen that the output in 1891 was in excess of that of any other year during the decade. The figures for 1900 show an increase of 98,041 tons compared with those of the previous year, and are the highest since 1891. The increased output is due to more regular work, and the absence of labour troubles, which retarded operations in previous years. The average quantity of coal raised per miner is much greater in the Western collieries than elsewhere in the state. This is due to a variety of causes, but chiefly to the greater thickness of the seams and the more friable character of the coal, and to the circumstance that the coal-beds are almost horizontal, and generally at small depths; in some cases the coal is worked by means of adits or tunnels instead of shafts, so that the facilities for winning the mineral are much greater in these mines than in those at Newcastle. But though the output is greater per miner than in the other coal-mining districts, the price for hewing is lower, so that the earnings of the individual miner do not differ greatly wherever the mine is situated.

The following table shows the growth of coal production in the Western district during the last ten years. Until 1891 the progress was regular, and in keeping with the advance of settlement in the portion of the state extending from the Blue Mountains to the Darling, in which the Western collieries have a monopoly of the coal trade; but from 1891 to 1895 the output decreased, a considerable improvement,

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however, being manifested since 1896. Situated, as these mines are, in close proximity to the principal iron-fields of New South Wales, their future prospects will be greatly improved should the manufacture of iron from the ore become an established industry in this part of the state :—

| Year. | Persons employed in and about mines. | Persons employed underground. | Quantity of Coal raised. | | |
|---|---|---|---|---|---|
| | | | Total. | Per person employed in and about mines. | Per person employed underground. |
| | No. | No. | tons. | tons. | tons. |
| 1891 | 504 | 436 | 346,804 | 688 | 795 |
| 1892 | 450 | 372 | 236,363 | 525 | 635 |
| 1893 | 305 | 261 | 190,378 | 624 | 729 |
| 1894 | 299 | 245 | 199,869 | 668 | 816 |
| 1895 | 296 | 247 | 190,864 | 645 | 773 |
| 1896 | 398 | 335 | 278,124 | 699 | 830 |
| 1897 | 413 | 344 | 287,860 | 697 | 837 |
| 1898 | 424 | 349 | 282,284 | 666 | 809 |
| 1899 | 403 | 332 | 217,817 | 540 | 656 |
| 1900 | 454 | 381 | 315,858 | 696 | 829 |

The following table shows the average price of coal per ton in the various districts for the last seven years ; the average for New South Wales makes allowance for the quantity raised in each district :—

| District. | 1894. | 1895. | 1896. | 1897. | 1898. | 1899. | 1900. |
|---|---|---|---|---|---|---|---|
| | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. |
| Northern | 6 9 | 6 2 | 6 1 | 5 11 | 5 8 | 6 2 | 6 4 |
| Southern | 5 3 | 5 3 | 5 3 | 5 1 | 4 9 | 4 11 | 5 5 |
| Western | 4 7 | 4 3 | 4 1 | 4 1 | 4 3 | 4 2 | 4 11 |
| New South Wales | 6 4 | 5 10 | 5 9 | 5 7 | 5 5 | 5 9 | 6 1 |

There were 24 persons killed, 101 seriously injured, and 92 who met with minor accidents in the New South Wales coal-mines during 1900, making a total of 217 persons affected by accidents—the number of cases terminating fatally being fourteen more than in the previous year. On March 17th, at the Sydney Harbour Colleries sinking shaft, five men lost their lives through being thrown out of the bucket in which they were descending, and at the Greta Colliery a similar number of miners were

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suffocated by noxious gases from an underground fire. The non-fatal cases were more numerous than in any previous year. This may be partly accounted for by the fact that the figures include minor accidents, which did not appear prior to 1898, when serious accidents only were reported. If these be taken into account, the increase in the number injured will not appear so large. Taking into account the serious accidents only, the experience of 1900 compares unfavorably with that of previous years. There is no special reason assigned for the large increase in the number of accidents, but it has been stated that many of them were due to carelessness on the part of the men injured. For the decennial period ended 1900, the average annual loss of life in the British coal-mines was 1·42 per thousand, or at the rate of 208,045 tons of mineral raised for every fatal accident. It should be explained that these figures relate not only to the coal-mines, but also to those working under the "Coal Mines Regulation Act." By comparing the coal-mines only with all of the mines regulated by the act mentioned, for the three years for which separate information is available—1897–9—it is found that the results are practically identical, so that it may be reasonably inferred that the figures for the decade give an accurate idea of the conditions under which coal-mining is carried on in the United Kingdom. In the New South Wales collieries, for the ten years ended 1900, the rate was 1·54 fatal accidents per thousand miners employed, and 270,206 tons of coal were raised for every life lost. The number of accidents in the coal and shale mines of the state, with the proportion of miners to each fatal and non-fatal case, is given herewith, as well as the quantity of mineral raised to each life lost and person injured :—

| Year. | Accidents. | | Number of miners employed to each person. | | Number of tons of mineral raised to each person. | |
|---|---|---|---|---|---|---|
| | Killed. | Injured. | Killed. | Injured. | Killed. | Injured. |
| 1892 | 8 | 77 | 528 | 142 | 481,896 | 50,067 |
| 1893 | 13 | 45 | 901 | 231 | 256,460 | 74,089 |
| 1894 | 7 | 40 | 1,347 | 236 | 527,607 | 92,331 |
| 1895 | 10 | 47 | 938 | 199 | 379,802 | 80,609 |
| 1896 | 24 | 62 | 394 | 153 | 164,223 | 63,570 |
| 1897 | 16 | 63 | 624 | 158 | 276,105 | 70,122 |
| 1898 | 25 | *113 | 421 | 93 | 189,438 | 41,911 |
| 1899 | 10 | *154 | 1,052 | 68 | 463,375 | 30,089 |
| 1900 | 24 | *193 | 1,364 | 60 | 230,432 | 28,655 |
| 1901 | 17 | †117 | 576 | 84 | 354,306 | 51,480 |

* Includes 44, 100, and 92 minor accidents respectively, not previously reported.
† Exclusive of minor accidents, not now recorded.

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The New South Wales Miners' Accident Relief Act, which came into force on the 1st January, 1901, provides that mine-owners employing on an average 15 persons or more, shall pay an annual contribution of 10s. per person employed into a fund to be established. This fund is to be supplemented by an equal amount from the Government, and by a deduction of 4½d. per week from the wages of each man employed, or 19s. 6d. per annum, a sum nearly equal to the contributions of the owners and Government together. The act is to be administered by a Board, consisting of six members, one of whom shall be the chairman, and the others as far as practicable shall be representative of (1) owners of coal and shale mines, (2) owners of other mines, (3) persons employed in or about coal and shale mines, (4) persons employed in or about other mines, and (5) the Department of Mines. In addition to the central controlling Board there is to be for each mine a committee, consisting of (1) the manager, (2) the under-manager, or some other person appointed by the manager, (3) an Inspector of Mines appointed by the Minister, and (4) three persons employed in or about the mines, and elected by the miners.

In a return furnished by the Minister for Mines it is stated that during the nine months ended 30th September, 1901, 21,063 employés contributed £13,990. For the half-year ended 30th June, the Government had paid into the fund £4,079, and the contributions of the mine owners amounted to £4,255 for the same period. Up to 30th September the sum of £4,389 was paid in allowances, and the number of families relieved was as follows:—Coal districts: Northern, 766; Southern, 236; Central and Western, 99. Metalliferous districts: Broken Hill, 350; Western, 254; Northern 65; and Southern, 38. The total number of families relieved by the fund was therefore 1,808.

The average annual number of fatalities in the coal-mines of the world for the last available ten years will be seen from the following table:—

| Country. | Average Annual Number of— | | Mortality per 1,000 Employed. |
|---|---|---|---|
| | Persons Employed. | Lives Lost. | |
| United Kingdom ..... | 700,513 | 998 | 1·42 |
| United States ..... | 359,355 | 941 | 2·62 |
| Prussia ..... | 243,593 | 623 | 2·56 |
| France ..... | 122,033 | 189 | 1·55 |
| Austria ..... | 87,784 | 189 | 2·16 |
| Belgium ..... | 113,910 | 191 | 1·68 |
| British Columbia ..... .. | 2,933 | 9 | 3·00 |
| Nova Scotia ..... | 5,529 | 21 | 3·78 |
| New South Wales ..... | 10,030 | 15 | 1·54 |

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The following table shows the quantity and value of coal raised in New South Wales from the earliest record to the close of 1901, the total production being 97,445,059 tons, valued at £39,494,844 :—

| Period. | Quantity. | Average per ton. | Value. |
|---|---|---|---|
| | tons. | s. d. | £ |
| Prior to 1830 | 50,780 | 10 0 | 25,394 |
| 1830 to 1839 | 111,069 | 8 9 | 50,523 |
| 1840 ,, 1849 | 349,961 | 9 2 | 155,083 |
| 1850 ,, 1859 | 1,481,761 | 12 11 | 1,004,924 |
| 1860 ,, 1869 | 6,174,132 | 10 2 | 2,961,910 |
| 1870 ,, 1879 | 12,530,044 | 10 7 | 6,838,889 |
| 1880 | 1,466,180 | 8 5 | 615,337 |
| 1881 | 1,769,597 | 6 10 | 603,248 |
| 1882 | 2,109,282 | 9 0 | 948,965 |
| 1883 | 2,521,457 | 9 6 | 1,201,942 |
| 1884 | 2,749,109 | 9 6 | 1,303,077 |
| 1885 | 2,878,863 | 9 4 | 1,340,213 |
| 1886 | 2,830,175 | 9 2 | 1,303,164 |
| 1887 | 2,922,497 | 9 3 | 1,346,440 |
| 1888 | 3,203,444 | 9 1 | 1,455,198 |
| 1889 | 3,655,632 | 8 11 | 1,632,849 |
| 1890 | 3,060,876 | 8 4 | 1,279,089 |
| 1891 | 4,037,929 | 8 8 | 1,742,796 |
| 1892 | 3,780,968 | 7 9 | 1,462,388 |
| 1893 | 3,278,328 | 7 2 | 1,171,722 |
| 1894 | 3,672,076 | 6 4 | 1,155,573 |
| 1895 | 3,738,589 | 5 10 | 1,095,327 |
| 1896 | 3,909,517 | 5 9 | 1,125,281 |
| 1897 | 4,383,591 | 5 7 | 1,230,041 |
| 1898 | 4,706,251 | 5 5 | 1,271,832 |
| 1899 | 4,597,028 | 5 9 | 1,325,799 |
| 1900 | 5,507,497 | 6 1 | 1,668,911 |
| 1901 | 5,968,426 | 7 4 | 2,178,929 |
| Total | 97,445,059 | 8 1 | 39,494,844 |

With the exception of the last three years, there has been a general decline in the price obtained per ton since 1883, but in this respect coal has not differed greatly from other produce. In the earlier years, however, the fluctuations in prices to a large extent arose from uncertainty in the

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markets. This uncertainty no longer exists, for the local markets and those of the other Commonwealth States and New Zealand demand a large share of the coal raised. The proportion of the production taken by Australasia increases almost every year, and operates in the direction of steadying the price, by removing the principal cause of fluctuation. The highest average price obtained was in 1854, the first year of the Crimean war, and the third after the commencement of the gold rush, when the price per ton was not less than 20s. 6d. In 1872 the output reached 1,000,000 tons; ten years later it had increased to 2,000,000; and in 1891, to a little over 4,000,000 tons; the yield decreased to 3,280,000 tons in 1893, but since that date it has steadily increased year by year until 1901, when no less than 5,968,000 tons were raised, the record production for one year.

New South Wales was its own chief customer during 1900, when, out of the total production stated above, the local consumption amounted to 2,138,165 tons, or 38·9 per cent. Victoria was its principal customer abroad, taking 866,895 tons, or 25·7 per cent. of a total export of of 3,369,332 tons. The quantity of coal required for local consumption shows a satisfactory increase during most years, as will be seen from the following statement:—

| Year. | Tons. | Year. | Tons. |
|---|---|---|---|
| 1891 | 1,523,561 | 1896 | 1,434,610 |
| 1892 | 1,589,263 | 1897 | 1,686,968 |
| 1893 | 1,443,238 | 1898 | 1,914,455 |
| 1894 | 1,546,951 | 1899 | 1,798,505 |
| 1895 | 1,572,359 | 1900 | 2,138,165 |

The annual consumption per head increased from 16 cwt. in 1877 to over 31 cwt. in 1900. The larger use of steam for railway locomotives, and for manufacturing, smelting, and other purposes, as well as the multiplication of gas-works, accounts for a great portion of the increase; but it must also be borne in mind that there is a large and growing demand for bunker coal for ocean-going steamers, which appears not as an export, but as required for home consumption. The amount of coal taken by the steamers during 1900 was about 425,000 tons.

The quantity of coal supplied to customers abroad shows also a large increase during this period, as shown in the table below:—

| Year. | Tons. | Year. | Tons. |
|---|---|---|---|
| 1891 | 2,514,368 | 1896 | 2,474,907 |
| 1892 | 2,191,705 | 1897 | 2,696,623 |
| 1893 | 1,835,090 | 1898 | 2,791,796 |
| 1894 | 2,125,125 | 1899 | 2,798,523 |
| 1895 | 2,166,230 | 1900 | 3,369,332 |

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As the coal trade of 1890 was hampered by the strike of that year, the exports of 1891 necessarily showed a large advance on those of 1890; nevertheless compared with the year 1889, the trade of 1891 exhibited satisfactory progress, but in 1892 the exports fell not only below those of 1891, but were less than those of 1889. A further large decrease took place in 1893, but the figures for 1894 and 1895 showed a slight recovery, and since 1896 the improvement was very decided, the export for 1900 being 570,809 tons higher than that of 1899, and the highest recorded. The customers of New South Wales for coal during the year 1900 will be found in the following table, from which it will be seen how wide is the circle which relies upon the state for the supply of one of the chief necessaries of civilised life :—

| Country or Port. | Tons. | Country or Port. | Tons. |
|---|---|---|---|
| Victoria | 866,895 | Natal | 13,842 |
| South Australia | 563,169 | Cape Colony | 10,361 |
| Chili | 480,484 | China | 9,339 |
| New Zealand | 209,323 | Celebes | 8,407 |
| Western Australia | 192,164 | South Sea Islands | 5,509 |
| Hawaiian Islands | 182,621 | Molucca Islands | 3,367 |
| United States | 168,531 | Dutch East Indies | 2,932 |
| Java | 139,204 | Mauritius | 2,694 |
| Tasmania | 99,316 | United Kingdom | 2,223 |
| Straits Settlements | 74,146 | New Guinea | 1,792 |
| Philippine Islands | 72,521 | Ecuador | 1,105 |
| Peru | 61,790 | Ceylon | 800 |
| Queensland | 47,713 | Siam | 800 |
| India | 36,250 | Marshall Islands | 500 |
| Hong Kong | 26,655 | Neu Pommern (New Britain) | 23 |
| Fiji | 26,254 | Kaiser Wilhelm's Land | 4 |
| New Caledonia | 24,730 | | |
| Panama | 17,234 | Total | 3,369,332 |
| Mexico | 16,634 | | |

The wealth of the state in coal is enormous, and the further expansion of the industry may be regarded as almost a certainty. As the great Australian Continent is only in the early period of the development of its immense resources, so also may the coal-mining industry of New South Wales be said to be in its infancy. It is, however, a very vigorous infancy, giving promise of a great future.

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In the following statement will be found the results of a number of proximate analyses made by the Government Geologist of coals from the various districts of New South Wales :—

| Districts. | Composition. | | | | |
|---|---|---|---|---|---|
| | Hygroscopic Moisture. | Volatile Hydrocarbons. | Fixed Carbon. | Ash. | Sulphur. |
| | per cent. | per cent. | per cent. | per cent. | per cent. |
| Northern | 1·92 | 35·09 | 54·08 | 8·91 | 0·54 |
| Southern | 0·97 | 23·10 | 65·26 | 10·67 | 0·46 |
| Western | 1·87 | 31·49 | 52·61 | 14·03 | 0·63 |
| Average | 1·74 | 32·40 | 56·02 | 9·84 | 0·53 |

Similar analyses of English coal are shown in the following table :—

| Description of Coals. | Composition. | | | | |
|---|---|---|---|---|---|
| | Moisture. | Volatile matter. | Fixed Carbon. | Ash. | Sulphur. |
| | per cent. | per cent. | per cent. | per cent. | per cent. |
| Anthracite | 1·50 | 5·00 | 81·75 | 10·50 | 1·25 |
| Bituminous | 2·50 | 37·00 | 50·00 | 8·50 | 2·00 |
| Semi-bituminous | 2·00 | 16·50 | 71·25 | 8·50 | 1·75 |
| Average Bituminous Coals | 2·25 | 26·75 | 60·62 | 8·50 | 1.88 |

Excluding the Welsh anthracite, by far the best coal known for steaming purposes, it will be seen from the above analyses that the New South Wales product, especially that obtained from the Southern and Northern mines, compares favourably as a heat producer with the average bituminous coals. In addition it has the advantage of a greater specific gravity, while containing less sulphur. The result of the analyses showed that the mean specific gravity of the Northern district coals was 1,338, and of the Southern and Western coals, 1,389, while the mean of a number of samples of British coals was 1,279. The gas-producing qualities of New South Wales coal, especially that obtained from the Northern mines, are superior to those of English coal, but the latter has a slightly smaller percentage of ash. Illawarra coal is chiefly used by the naval authorities on the Australian station, and on the large ocean-going steamers, mainly on account of its cheapness, for the steam-producing power of the coal from the Northern districts of the state is almost equal to that of the Southern article.

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## Coke.

The quantities of coke manufactured in New South Wales since 1890 were as follow :—

| Year | Quantity. | | | Total value. |
|---|---|---|---|---|
| | Northern District. | Southern and Western Districts. | Total. | |
| | tons. | tons. | tons. | £ |
| 1890 | 15,886 | 15,211 | 31,097 | 41,147 |
| 1891 | 9,474 | 20,836 | 30,310 | 34,473 |
| 1892 | 5,245 | 2,654 | 7,899 | 8,853 |
| 1893 | 12,262 | 5,596 | 17,858 | 20,233 |
| 1894 | 13,602 | 20,856 | 34,458 | 33,209 |
| 1895 | 11,326 | 16,304 | 27,630 | 24,683 |
| 1896 | 10,399 | 15,953 | 26,352 | 21,851 |
| 1897 | 21,012 | 43,190 | 64,202 | 45,392 |
| 1898 | 34,422 | 47,800 | 82,222 | 64,135 |
| 1899 | 43,912 | 52,618 | 96,530 | 77,130 |
| 1900 | 49,374 | 76,839 | 126,213 | 109,620 |
| 1901 | 35,939 | 92,943 | 128,882 | 105,665 |
| Total ..... | 262,853 | 410,800 | 673,653 | 586,391 |

For the period 1890–1900 the imports into the state were :—

| | |
|---|---|
| 1890 | 38,174 tons |
| 1891 | 76,542 ,, |
| 1892 | 61,852 ,, |
| 1893 | 61,874 ,, |
| 1894 | 47,586 ,, |
| 1895 | 42,526 ,, |
| 1896 | 43,134 ,, |
| 1897 | 32,451 ,, |
| 1898 | 4,000 ,, |
| 1899 | 426 ,, |
| 1900 | 507 ,, |

Almost the whole of this was imported *vid* South Australia to the Barrier district, where it was used for smelting purposes. The returns of the South Australian Customs Department show that by far the largest quantities of this coke came originally from the United Kingdom and from Germany. At Broken Hill, the Proprietary Company alone have consumed about 1,000 tons per week. It seems a singular circumstance that the silver-miners of New South Wales should have so largely relied on England and Germany for their coke when the state possesses

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unlimited supplies of coal from which excellent coke can be manufactured. It is true that complaints have been made that the colonial coke contains a higher percentage of ash than the imported article, and that it is too friable, causing a large percentage of loss through abrasion in transport, while the coke, it has been said, arrives in such small pieces as to be unfit for smelting the fine lead ores. Recently, however, the Government Geologist stated that, although there was room for material improvement in the manufacture of coke in this state, both by reducing the percentage of ash, and increasing the density, some of the local article was nearly equal, as regards ash, to the average of the foreign cokes used by the Broken Hill Proprietary Company, while several specimens of locally made cokes contained a smaller percentage of ash than the imported article.

The following analyses of average samples of coke taken recently from the works in the various districts have been made in the laboratory of the Mines Department:—

| Composition. | Districts. | | |
|---|---|---|---|
| | Northern. | Southern. | Western. |
| | per cent. | per cent. | per cent. |
| Volatile matter and moisture ..... | 1·65 | 2·17 | 6·22 |
| Fixed Carbon ..... | 87·19 | 82·89 | 78·41 |
| Ash ..... ..... | 10·72 | 14·47 | 14·67 |
| Sulphur ..... | 0·44 | 0·47 | 0·70 |

The specific gravity of the specimens was found to be 1·797 for the Northern district, 1·936 for the Southern, and 2·711 for the Western district.

Owing to the difficulty of obtaining regular supplies of coke, consequent on the abnormal condition of the freight market, the Broken Hill Proprietary Company decided to erect coke works at Bellambi, on the South Coast Railway line. The task of building the ovens was commenced in September, 1900, and the first charge was drawn on June 18th, 1901. The ovens, when fully running, will supply one-half of the company's total requirements, and they are so arranged that duplication can be carried out at any time when it may be considered desirable. The Mount Lyell Copper Mining Company have also erected additional ovens. It would seem that coke of local manufacture has at last overcome the strong prejudice that existed, judging from the great increase in the production during the last four years. This is doubtless due to the greater care excercised in its manufacture, and by the employment of a better class of kiln and appliances for cleaning the coal.

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At the old Bulli mine a coal seam 6 feet thick has been for about half that thickness transformed into a sort of natural coke, apparently through the intrusion of igneous matter underneath the seam. This natural coke is largely used on the Sydney tram-motors.

Considerable activity is now being displayed in the Illawarra district, where there are six works all fully employed, and when the good qualities of the locally manufactured coke are recognised, the district will doubtless become not only a smelting, but also a manufacturing, centre.

## Kerosene Shale.

This mineral is found in various parts of New South Wales, but principally at Hartley, Katoomba, Megalong, Bathgate, near Wallerawang, Joadja Creek, Berrima, Mount Kembla, Burragorang, and Greta; and also at Colley Creek, near Murrurundi, in the Capertee district, and in the valley of the Wolgan River. The shale occurs in seams, or lenticular patches of greater or less extent, the largest hitherto discovered not exceeding one mile in length, and varying in thickness from a few inches to 6 feet. It is a species of torbanite, or cannel-coal, similar to the boghead mineral of Scotland, but yielding a much larger percentage of volatile hydro-carbon than the Scotch mineral. The richest shale at the Joadja mine, near Mittagong, yields about 130 gallons of crude oil per ton, or 15,400 cubic feet of gas, with an illuminating power equal to forty-eight sperm candles when gas only is extracted from the shale, and has a specific gravity of 1·098, while the best shale from Hartley Vale yields from 150 to 160 gallons of crude oil, or 18,000 cubic feet of gas of forty candle power per ton. The specific gravity of the best specimens of Joadja Creek and Hartley shale is 1·06, the amount of sulphur 0·49 per cent., and the yield of tar 40 gallons per ton. It is found advantageous for mixing with ordinary coal for the manufacture of gas, and is largely exported to Great Britain, America, and other foreign countries, as well as to the neighbouring states. On analysis the following result was obtained from average specimens :—

| | |
|---|---|
| Volatile Hydro-carbons, including moisture..... | 82·50 per cent. |
| Fixed Carbon ..... | 6·50 ,, |
| Ash ..... | 11·00 ,, |

At present only two companies—the New South Wales Shale and Oil Company and the Australian Kerosene Oil and Mineral Company—work kerosene shale in the state, their mines being situated at Hartley Vale, Genowlan, and Ruined Castle, in the Western district; and at Joadja, in the Southern district. These companies not only raise shale for export, but also manufacture from it petroleum oil and other products. The production of kerosene shale from the opening of the

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mines in 1865 to the end of 1901 amounts to 1,073,468 tons, of the value of £1,970,623, as shown in the following table :—

| Year. | Quantity. | Average price per ton. | Total value. | Year. | Quantity. | Average price per ton. | Total value. |
|---|---|---|---|---|---|---|---|
| | tons. | £ s. d. | £ | | tons. | £ s. d. | £ |
| 1865–67 | 7,419 | 3 9 5 | 25,749 | 1892 | 74,197 | 1 16 8 | 136,079 |
| 1868–72 | 58,772 | 2 13 9 | 157,886 | 1893 | 55,660 | 1 16 4 | 101,220 |
| 1873–77 | 71,108 | 2 12 9 | 187,793 | 1894 | 21,171 | 1 10 0 | 31,781 |
| 1878–82 | 152,050 | 1 18 8 | 293,729 | 1895 | 59,426 | 1 5 4 | 75,219 |
| 1883 | 49,250 | 1 16 11 | 90,861 | 1896 | 31,839 | 1 1 6 | 34,202 |
| 1884 | 31,618 | 2 5 8 | 72,176 | 1897 | 34,090 | 1 3 9 | 40,612 |
| 1885 | 27,462 | 2 9 0 | 67,239 | 1898 | 29,689 | 1 1 5 | 31,834 |
| 1886 | 43,563 | 2 5 11 | 99,976 | 1899 | 36,719 | 1 2 3 | 40,823 |
| 1887 | 40,010 | 2 3 10 | 87,761 | 1900 | 22,862 | 0 18 1 | 20,652 |
| 1888 | 34,869 | 2 2 3 | 73,612 | 1901 | 54,774 | 0 15 2 | 41,489 |
| 1889 | 40,561 | 1 18 3 | 77,667 | | | | |
| 1890 | 56,010 | 1 17 2 | 104,103 | Total ... | 1,073,468 | 1 16 9 | 1,970,623 |
| 1891 | 40,349 | 1 18 9 | 78,160 | | | | |

The features of this table are the steady fall in the average price of the mineral and the fluctuating production. There is no special reason for the rise and fall in the quantity of shale produced from year to year beyond the irregularity in the orders coming forward for export, and the slackening of mining operations while the mineral at grass is being reduced. It does not necessarily follow, either, that the whole production of any one year is put to actual use. A certain proportion of second-grade mineral must be taken out with the first quality, and as there is only an outside demand for the higher grade, it depends altogether upon their ability to compete with the imported oil whether the local companies make use of the second quality at all. With reference to the decline in value and production exhibited in 1900, the cause of the diminished output is attributed to the closing of the Joadja Mine and the suspension of operations at New Hartley for the greater portion of the year, pending completion of railway connection, and the erection of retorts at Torbane. The depreciation in the average price obtained arises from the fact that the output from Hartley Vale was confined to low-grade retorting shale, of which 7,111 tons—nearly one-third of the total production of New South Wales—were raised, valued at only £2,037. During 1900 large continuous-feed retorts were erected at Torbane by the New South Wales Shale and Oil Company, and a contract was entered into with the Australian Gas Company to supply one million gallons of crude oil annually for ten years, for the purpose of enriching the water-gas. The introduction of modern machinery and economic methods of retorting shale opens up large possibilities for the profitable treatment of the extensive deposits of low-grade mineral, which is of too poor a quality for exporting. The constant demand for the retorts necessitates a regular supply, so that there was in consequence a largely increased output during 1901. At the shale mines of the state in 1901 there were 148 men employed under ground and 76 above ground, or a total of 224.

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## Diamonds and other Gem-Stones.

The existence of diamonds and other gem-stones in the territory of New South Wales was recorded as early as 1851. In 1867 they were found at the Cudgegong River in the Mudgee district, and during the year between 3,000 and 4,000 diamonds were won from the claims of the Australian Diamond Mining Company, but no systematic attempt was made to work the deposits until the year 1872. In the course of the following year deposits of diamantiferous wash were discovered at Bingara, and a somewhat extensive rush took place. A large number of mineral leases were applied for, and it was anticipated that diamond-washing would become a permanent and payable industry. Unfortunately the stones were small and the work was suddenly abandoned owing to the great difficulty experienced by miners in finding a ready market for their diamonds. During 1881 the field was officially visited and reported on, and since 1883 operations have been carried on in a desultory fashion, chiefly through lack of sufficient water supply. The diamonds occur in old tertiary river drifts, and in the more recent drifts derived from them. The deposits, which occur in the Inverell, Bingara, Mittagong, Cudgegong, and Narrabri districts, are extensive, and have not yet been thoroughly prospected. The finest of the New South Wales diamonds are harder and much whiter than the South African diamonds, and are classified as on a par with the best Brazilian gems. During the year 1889 the Malacca Company, near Tingha, found diamonds weighing 2,195⅝ carats, valued at £878 5s. In 1891, 1,200 carats of diamonds, valued at £1,050, were won in the Tingha and Inverell districts. In 1892 as many as 2,250 diamonds were obtained from the Monte Christo Mine at Bingara alone. The majority of diamonds obtained in this district weigh from ¼ to ½ carat, while the largest vary from 2 to 3 carats. The number obtained per load varies very greatly; the Round Mount Company at Cope's Creek, in the Inverell District, washed 722 loads for 2,685 carats in 1886, from six loads obtaining the exceptional yield of 1,080 diamonds, weighing 296 carats. The output of the Bingara district during 1893 is said to have been about 15,000 carats, valued at £15,375. In 1894 the only work done was prospecting in the Bingara, Mittagong and Denison Town districts; and in 1895 the industry was still quiet, but at Boggy Camp Diamond Field, 16 miles west of Tingha, a revival took place during the year, and 4,100 stones, weighing in the aggregate 1,313 carats, and valued at £492, were obtained. No estimate of the returns in 1896 was obtained from this field, but in 1897 a large area was taken up with a view of working the ground on an extensive scale. The output of gems from the field in 1897 was 8,489 carats, valued at about £3,000. In 1898, 14,920 carats were won, valued at £5,625, the gems being associated with tin in considerable quantities. During the year a quantity of new machinery was erected, and the field



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has been considerably developed, although work was greatly hampered through the scarcity of water. The output from the Bingara diamond-field for 1898 was set down at 1,573 carats, valued at £434; but work there was practically suspended during the year owing to the scarcity of water. Although the industry was greatly restricted by the inadequate water supply, a considerable amount of prospecting and developmental work was carried out during 1899, and 25,874 carats, valued at £10,350, were won. Of this yield, the Boggy Camp—now known as Copeton—Field furnished 25,800 carats, valued at £10,320, the balance being won at Bingara, where the work done was principally of an exploratory character. A considerable falling off was manifested in the production in 1900, when only 9,828½ carats, valued at £5,663, were won, almost the whole of which were obtained from the Copeton Field. In 1901, 9,322 carats, valued at £9,756, were produced. The shutting down of the Inverell Diamond Field Company's Mine at Copeton, in the Tingha division, pending reconstruction of the company, and the suspension of work at the Bingara Mines, due to the scarcity of water, are the most important causes of the decrease. There is great difficulty in obtaining exact statistics of the production of diamonds in New South Wales, and this difficulty will continue to be experienced until the industry becomes well established, which at present cannot be said to be the case. The following table, compiled from such information as is available, can only be regarded as an approximation, and is believed to considerably understate the actual output:—

| Year. | Diamonds. | Carats. | Value. |
|---|---|---|---|
| | No. | No. | £ |
| 1867–85* | 12,000 | 2,856 | 2,952 |
| 1886 | 23,000 | 5,151 | 5,151 |
| 1887 | 205 | 42† | 26 |
| 1888‡ | ..... | ..... | ..... |
| 1889 | ..... | 2,195§§ | 878 |
| 1890 | ..... | 731½ | 335 |
| 1891 | ..... | 1,200 | 1,050 |
| 1892 | 2,285 | 457½‖ | 469 |
| 1893 | ..... | 15,000¶ | 15,375 |
| 1894 | ..... | 1,772¼¶ | 859 |
| 1895 | 4,100 | 1,313** | 492 |
| 1896 | ..... | 8,000 | 2,625 |
| 1897 | ..... | 9,189 | 3,250 |
| 1898 | ..... | 16,493 | 6,060 |
| 1899 | ..... | 25,874 | 10,350 |
| 1900 | ..... | 9,828½ | 5,663 |
| 1901 | ..... | 9,322 | 9,756 |
| Total ..... | ..... | 109,425§§ | 65,291 |

* Estimated. † Result only of 19½ loads washed in January (Cope's Creek). ‡ No information obtainable. § Output of Malacca Co. (Inverell) only. ‖ From "Monte Christo" mine (Bingara) only. ¶ Output from Bingara only. ** From Boggy Camp (Tingha) only.

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Other gem-stones, including the sapphire, emerald, oriental emerald, ruby, garnet, chrysolite, topaz, zircon, etc., have been found in the gold and tin-bearing drifts and river gravels in numerous localities throughout the state. Precious stones, such as amethyst, cairngorm, and onyx, with other varieties of agate, are not uncommon. The Emerald Proprietary Company, in the Emmaville district, have sunk two shafts, 100 ft. and 50 ft. respectively, and 25,000 carats have been won in a rough state. Their value when cut and finished, if of the best quality, is about £2 per carat. Owing to the difficulties of extraction, and the low price of the gems in the London market, the mines were closed for three years. In 1897 they were again opened up, and, although worked for some time during 1898, they are now closed, the company having obtained a suspension of the labour conditions. No gems were produced during the year.

The finest opal known is obtained in the Upper Cretaceous formation at White Cliffs, near Wilcannia; and on this field the population is at present estimated at 1,400 persons, 800 of whom are miners. During the year 1895 good stone was found at a depth of 50 feet, and as the lower levels are reached the patches of opal appear to improve in quality and to become more regular and frequent. On block 7 a patch of stone was found which realised over £3,000. It is difficult to state with exactitude the value of the production, but it is believed that stone to the value of £23,000 was sold during the three years ended 1895; while the industry has made such great strides during the last few years that in 1896 the production was valued at £45,000; in 1897, £75,000; in 1898, at £80,000; in 1899, at £135,000; in 1900, £80,000; and in 1901, at £120,000. The foregoing figures are only approximate, as it is impossible to arrive at the total production with any degree of certainty, but they are, if anything, understated. The decrease in the yield during 1900 was attributed to the poor quality of the greater portion of the opal raised, which either had no commercial value or brought only a much reduced price. The quality of the stone found on the fields varies considerably, some only realising 10s. per oz., whilst the best quality occasionally realises as much as £70 per oz. in the rough, but prices ranging from £5 to £20 per oz. are of frequent occurrence. The best market for the gems is Germany, where they find a ready sale; but it is stated that the principal gem merchants of Europe have now agents on the field for the purchase of the stone. In 1896, opal was discovered at Purnanga, about 40 miles north-east of White Cliffs, but the scarcity of water has retarded development. Some very fine parcels of stone have been raised at this locality, and it is considered that Purnanga is the nucleus of a fine opal field should a good water supply become available.

Topazes are obtained largely at Oban, in the Glen Innes division; but the price obtained is very low, and only one sale, to the amount of £20, was reported during the year 1895. About 60 oz. of topaz were obtained during 1899 in the Kookabookra division, but only realised £4.

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Turquoises have been discovered at Mount Lorigan, near Wagonga, and work was carried on during the year 1895 by means of aid granted from the Prospecting Vote. In 1896, however, the mine was closed down.

## Mica.

Mica is known to exist in many parts of New South Wales, but has never yet been worked, although there is a considerable demand for the article, especially if in blocks of fairly large size that could easily be split into thin plates. It is to be met with in the numerous granitic areas that occur in various parts of the state, especially in the coarsely-crystalline granitic formations in the Silverton district, and elsewhere in the Barrier Ranges.

## Asbestos.

Asbestos has been found in veins in serpentine in the Gundagai, Rockley, and Barrier Range districts—in the last-named in considerable quantities.

## Alunite.

Alunite occurs as a large deposit at Bulladelah, about 35 miles from Port Stephens, the yield averaging about 80 per cent. of alum. During 1901, 3,146 tons of alunite, valued at £9,438—as compared with 1,915 tons, valued at £5,745, during 1900—were shipped to England, where it is found that the stone can be treated more cheaply than is possible locally, and in consequence the company's works at Bulladelah were closed.

## Marble, Building Stones, Fire-Clays, and Slates.

New South Wales possesses a most abundant supply of all the various kinds of stone and other materials for the building and adornment of its cities. Marble limestone is found in great masses near Wallerawang, Bathurst, Molong, Marulan, Tamworth, and Kempsey, localities which are all within convenient distance of the great arteries of communication; and it is obtainable in all its different varieties. Marble quarries have been opened at Cow Flat, Marulan, Wallerawang, Orange, and Tamworth; but the marble deposits are not receiving the attention they deserve, and no successful effort has yet been made to supply the local demand. The cost of quarrying and the carriage to Sydney would, of course, be heavy. Granite is found at Bathurst, Moruya, Trial Bay, and on

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Montagu Island, as well as at many other places throughout the state. Most of the granite hitherto used in Sydney has been obtained from Moruya, a port about 180 miles south of Sydney.

Limestone flux was supplied to the Broken Hill silver-mines from quarries at Tarrawingee, which are connected with the mines by a tramway, 30 miles in length. The quantity so supplied since 1891 is shown in the following table :—

| Year. | Quantity. | Value. | Year. | Quantity. | Value. |
|---|---|---|---|---|---|
| | tons. | £ | | tons. | £ |
| 1891 | 74,057 | 65,357 | 1895 | 104,194 | 68,160 |
| 1892 | 103,368 | 93,031 | 1896 | 88,924 | 54,261 |
| 1893 | 130,635 | 111,041 | 1897 | 67,590 | 41,798 |
| 1894 | 89,990 | 69,290 | 1898 | 9,253 | 5,783 |

In consequence of the Broken Hill Proprietary Company transferring the whole of their smelting operations to Port Pirie in April, 1898, the demand for flux ceased, and the quarries, thereupon, closed down. A company forwarded large quantities of limestone from Myall Lake to Sydney in 1892, and commenced the manufacture of hydraulic lime; and since the establishment of sulphide works at Cockle Creek, the limestone flux used there has been supplied from this district. In 1899, only 1,000 tons, valued at £750, were so disposed of, but during 1900 considerable activity was displayed in the mining of limestone at Portland, in the Mudgee district, in connection with the Lime and Cement Works, and also in the Rockley division, and at Marulan, Broken Hill, Bulladelah, Taree, Barraba, Parkes, and Peak Hill, where lime has been produced and a quantity of limestone disposed of for flux. In all, 17,000 tons of limestone flux, valued at £3,962, were raised during the year. During 1901 the value of production was stated as £5,794.

The Hawkesbury formation, over which the City of Sydney is built, provides the city with an inexhaustible supply of sandstone, of the highest quality for building purposes. This material is admirably adapted for architectural effect, being of a pleasant colour, fine grain, and very easily worked. The beauty of Sydney street architecture is due in no inconsiderable degree to the free use of this excellent sandstone.

Basalt or "blue metal," which is extensively used as road metal and for the ballasting of the railway lines, is obtained at Kiama, Prospect, and Pennant Hills. This stone has not yet been used to any extent for building purposes.

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Syenite, commonly called trachyte, is found at Bowral ; as a building material it is equal to granite in solidity, and, like granite, it takes a beautiful polish. The success which has attended its first use as a building stone, together with the short distance from the metropolis at which it is to be found, will no doubt cause it to be extensively used in the future for large structures.

Kaolin has been found in many granitic districts, such as Bathurst, Gulgong, Uralla, and Tichbourne, near Parkes. The clay is of excellent quality, and superior to the best obtained in England or France.

The coal measures also contain numerous beds of fire-clays ; and in every part of the state excellent clays, well adapted for brick-making purposes, are extensively worked. Slates are found in several districts, but are principally quarried at Gundagai and in the surrounding district, as well as at Bathurst and Goulburn. It will be seen, therefore, that the state has no need to import building material of any description, as it possesses a supply amply sufficient to provide for its own wants and those of its neighbours.

Graphite has been obtained at Undercliff, in the New England district, from several lodes, one of which is 6 ft. wide, but it is of inferior quality. In 1896, 27 tons were sent away, but only realised 20s. per ton. This price will not pay, consequently all leases taken up for the mineral have been abandoned. The only mining for plumbago carried on during 1899 was at the Undercliff mine, where two men were engaged prospecting for this mineral. Operations were continued in 1900, with assistance from the Prospecting Vote. The lode has been cut, but a sample, on being assayed, contained only 44·84 per cent. of carbon ; 500 tons, valued at £1 per ton, were raised from an adjoining property, and were despatched to Melbourne for disposal to an English firm.

## Prospecting Vote.

Following the practice of the neighbouring state of Victoria, the Government have for some years past devoted a sum annually to encouraging prospecting for gold, and in 1889 the conditions of the vote were so amended as to embrace all minerals. The amount set apart each year was originally £20,000. For the year 1892, however, it was fixed at twice that sum; and during each of the years since 1895–6, the sum of £25,000 has been available. With the exception of the Mount Drysdale gold-field, which was discovered in 1892, it cannot be claimed that any discovery of a large payable field has so far been made by means of the Prospecting Vote, but at the same time it may be said that some rich working claims have been opened up with the aid granted. Also, in addition to the employment of labour, the proving of a lode or reef to be payable invariably leads to the taking up of large areas of

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adjoining land under the Mining Act, from which increased revenue is derived by the state. From the year 1888 to the end of June, 1901, the number of discoveries reported to the Department of Mines was 208, while the amount expended in prospecting work during that time was £260,612.

Miners desiring a grant from the vote have to satisfy the Prospecting Board that the locality proposed to be prospected is one likely to yield the mineral sought for, and that the mode of operation is suitable for its discovery. Aid is given in deserving cases up to 50 per cent. of the value of the work done and of the necessary implements and materials. Miners who have been assisted from the vote are not entitled to claim any reward that may be offered for the discovery of any new gold or mineral field.

The new clause in the Prospecting Regulations, which provides that the amount advanced from the vote shall be refunded in the event of the discovery of payable mineral by means of the aid granted is working well; several refunds were made during the year.

## Diamond Drills.

The use of the diamond drill in searching for minerals dates only from 1881, and boring by the Department of Mines commenced much later. The drills now in use belong for the most part to the state, and are lent to private persons on terms fixed by regulation. The charges were formerly £2 2s. on application, towards cost of inspection; £10 per week for cost of diamonds and wear and tear of machinery from start of bore till completion; wages of foreman and assistants; cost of tubes damaged, destroyed, or which cannot be withdrawn from bores; all charges for freight, etc., on machinery, both on being sent and returned; and cost of all fuel and water necessary for working the drill. This arrangement proved unsatisfactory, so the alternative system of paying a fixed price per foot bored has been generally adopted, the hirer paying according to the nature of the country, at the rate of 15s. to 20s. per foot bored up to 1,000 feet, and the fee increasing 5s. per foot for every subsequent 500 feet. This charge covers the cost of diamonds, wear and tear of machinery, and wages of foreman and assistants. The other charges were only modified in one particular: the drill has now to be returned to the nearest railway station, the Department defraying expenses to Sydney. An abatement may be granted by the Mines Department in special cases.

During the year 1901 the depth bored was 2,449 feet, the average cost per foot being 9s. $7\frac{1}{16}$d. as compared with 19s. 6½d. in 1900. The earnings of the diamond drills during 1901 amounted to £1,550, as compared with £767 in the previous year, and the amount paid into

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the Treasury as revenue from this source was £1,612. The subjoined table shows the bores put down during 1901 :—

| Locality. | Strata. | Mineral for which bored. | Actual depth of bores. | Total depth bored during 1900. | Cost per foot. |
|---|---|---|---|---|---|
| | | | ft. in. | ft. in. | s. d. |
| Otford ..... | Coal measures | Coal ..... | 720 0 | 414 6 | 5 $9\frac{1}{16}$ |
| Reno ..... | Porphyry ..... | Gold ..... | 1,486 0 | 1,432 9 | 10 $8\frac{3}{4}$ |
| Walsh Island, Newcastle. | Coal measures | Coal ..... ... | 601 6 | 601 6 | 9 $5\frac{3}{4}$ |
| Total..... | | | 2,807 6 | 2,448 9 | 9 $7\frac{1}{16}$ |

There has been a good deal of fluctuation in the demand for the employment of the diamond drill in mining. The depth bored in each year since 1892 was as follows :—

| Year. | Depth bored. | Year. | Depth bored. |
|---|---|---|---|
| | feet. | | feet. |
| 1892 | 4,139 | 1897 | 1,680 |
| 1893 | 1,903 | 1898 | 1,326 |
| 1894 | 557 | 1899 | 1,574 |
| 1895 | 299 | 1900 | 1,278 |
| 1896 | 2,143 | 1901 | 2,449 |

The adoption of the alternative system referred to above, under which the use of the diamond drill can be made available at an almost nominal cost in basaltic or other mineral country which has not been prospected, and which is either too hard, wet, or deep, and, therefore, too expensive for sinking, has had satisfactory results.

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# LAND LEGISLATION AND ADMINISTRATION.

THE systems adopted for the settlement of population on the lands of New South Wales have been many, and they have differed widely at various stages of the state's progress. In the early days of colonisation the Governor had the sole power of granting lands, which he did under prescribed conditions, such as the payment of an annual quit-rent, the cultivation of a certain proportion of the area granted, and other services specified in instructions received from time to time from the Secretary of State. The first instructions issued to Governor Phillip, on the 25th April, 1787, authorised him to make grants only to emancipated prisoners, in the following terms:—"To every male shall be granted 30 acres of land, and in case he shall be married, 20 acres more; and for every child who may be with them at the time of making the said grant, a further quantity of 10 acres, free of all fees, taxes, quit-rents, and other acknowledgments for the space of ten years." The annual quit-rent to be paid on these grants was afterwards fixed at 6d. for 30 acres. The first settler was a prisoner of the name of James Ruse, who, having completed his sentence, entered on his farm of 30 acres at Parramatta on the 25th February, 1789.

Additional instructions were issued by the Secretary of State on 20th August, 1789, extending the privilege of obtaining grants to such of the non-commissioned officers and men of the detachment of marines serving in New South Wales as were desirous of remaining in the territory after obtaining their discharge. The Governor was further requested to facilitate the settlement of free persons who might be disposed to emigrate with the view of becoming settlers in New South Wales, by giving them grants of land not exceeding the maximum area granted to non-commissioned officers, viz., 100 acres, subject to the same quit-rent, the annual amount of which was 1s. for every 50 acres, payable at the expiration of five years after the issue of a grant. In the original instructions no mention was made of grants to officers, but this omission was afterwards rectified. These early grants were made on condition that a certain proportion of the land should be cultivated, but although this condition was not always complied with, no grants were ever cancelled in consequence. As to the payment of quit-rents, Mr. Commissioner Bigge, in his report on the administration of Governor Macquarie, states that from 1809 to 1823 no quit-rents were collected.

With regard to settlement in the town of Sydney, grants were not made until the year 1811, when the necessary authority to do so was given

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in a letter from the Secretary of State, dated the 26th July, and allotments were granted on lease only for periods of fourteen or twenty-one years. Previous to the building regulations issued by Governor Macquarie on the 18th August, 1810, no attention was paid to the regular admeasurement of town allotments or to the formation of streets.

Quit-rents on leases and grants of town allotments varied in amount according to the Governor at whose discretion they were imposed. Leases of fourteen and twenty-one years were subject to annual quit-rents of 2s. 6d., 5s., 10s., and 20s. each; and from 1811 to 1814 grants of town allotments were charged at the rate of 2s. 6d. per rod per annum; but on the 21st March, 1814, the following scale of quit-rents for town allotments was established by Governor Macquarie:—

| Gradation. | Leases. | | | | Grants. | | | |
|---|---|---|---|---|---|---|---|---|
| | Sydney. | | Other Towns. | | Sydney. | | Other Towns. | |
| | £ s. d. | | £ s. d. | | £ s. d. | | £ s. d. | |
| Maximum | 2 0 0 | | 1 0 0 | | 3 0 0 | | 2 0 0 | |
| Minimum | 0 10 0 | | 0 10 0 | | 1 0 0 | | 0 3 4 | |
| Above 20 rods, per additional rod, but not exceeding the maximum.. | 0 0 2 | | 0 0 1 | | 0 0 4 | | 0 0 3 | |

The method of disposing of Crown lands, and the scale of quit-rents chargeable, suffered no alteration until the issue of the Government and General Order of the 5th November, 1823. By this order the terms upon which lands could be obtained in New South Wales were modified, the annual quit-rent being raised to 3s. for every 20 acres, payable immediately if the lands had been obtained as an additional grant, but if otherwise at the commencement of the sixth year.

Though a certain limit appears to have been fixed as to the area of grants, the early Governors often overstepped their instructions in this direction. Governor Macquarie, in particular, was deemed to have disposed of the Crown lands in too liberal a fashion, and the result of an investigation into his administration led the British Government to issue to his successors instructions of a more definite and stringent character with regard to the alienation of Crown lands.

The instructions to Sir Thomas Brisbane introduced the principle of alienation of lands by sale to free settlers who arrived in the state with a certain amount of available capital, and the grants were made on condition that a certain proportion of the land should be cultivated, or improvements of corresponding value erected thereon, and a given number of convicts maintained free of expense to the Government. On the 8th November, 1824, it was further proclaimed that a grant of 100 acres would be given to any settler for every convict maintained by him free of expense to the Government; but applications for grants under this condition became so frequent that the order was rescinded on the 16th March, 1826. By a Government

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and General Order, dated the 24th March, 1825, land was allowed to be sold by private tender at a minimum price of 5s. per acre. The order notified that the Governor would receive applications for the sale of waste lands; but no person was permitted to purchase more than 4,000 acres, nor any family more than 5,000 acres. The price of unlocated Crown lands in the county of Cumberland, or of any of the lands situated on the west of the Nepean River, was raised to a rate ranging from 7s. 6d. to 10s. per acre. The disposal of lands by sale did not, however, interfere with the ordinary method of alienating town allotments and country lands by grants subject to the payment of quit-rents.

The progress of settlement, and the extension of the pastoral industry (which was already taking place) rendered it necessary that some classification of lands should be made in accordance with natural adaptability to the various purposes of colonisation. On the 18th May, 1825, instructions were received from the Secretary of State, directing that the state should be divided into counties, hundreds, and parishes, and that a valuation should be made of the lands throughout the territory, with a view of fixing an average price at which all the disposable lands should be put up for sale. The grants made thereafter, within the limits in which settlement was allowed, were subject to the payment of a quit-rent of 15s. for every 100 acres, redeemable at twenty years' purchase. Three Land Commissioners (of whom Sir Thomas Mitchell, the Surveyor-General, was President) were appointed on the 10th January, 1826, to give effect to these instructions. The Commissioners completed their labours in about three years, and divided the territory into nineteen counties, covering some 34,505 square miles, or 22,083,200 acres of land. During this period certain modifications were introduced; the sale of land was suspended, and the quit-rents charged on grants were altered to a rate of 5 per cent. per annum on the value fixed by the Commissioners, whilst on grants in extension of previous grants, and on lands reserved to settlers for their choice of purchase, a charge was made at the rate of 20s. per 100 acres. On the 28th August, 1828, the quit-rent on primary grants was altered to an annual sum of 2d. per acre, and this rate remained in force until grants were abolished except for public purposes, and the principle of sale by public auction, in lieu of private tender, was made the sole means of alienating Crown lands. The Land Commission was abolished on the 6th May, 1830.

Great difficulty has been experienced in determining the area granted and sold by private tender from the date of the first settlement to the year 1831, when the system of land alienation by auction sale was introduced; but it has been ascertained from authentic sources that the following areas were disposed of as under:—

| | Acres. |
|---|---|
| Area granted by Governors up to 1810 | 177,500 |
| do Governor Macquarie, 1810–23 | 400,000 |
| Area granted and sold, 1824–31 | 3,386,250 |
| Total | 3,963,750 |

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From this total, however, there should be deducted 57,423 acres of land granted in Tasmania, (then known as Van Diemen's Land) reducing to 3,906,327 acres the area granted and sold within the present limits of New South Wales.

The system of granting land upon the payment of an annual quit-rent was at all times subject to many difficulties, and the collection of these dues appears to have been carried out in a very perfunctory manner. These difficulties led the Government in later years to offer special inducements for the redemption of quit-rents. On the 9th October, 1846, the following notice was proclaimed:—"All lands for which twenty years' quit-rent has been paid shall be free from further charge, and any persons who have paid more than twenty years' quit-rent shall have the difference refunded to them." On the 30th July, 1849, it was further notified that at any time thenceforward any person might redeem his future quit-rent by an equivalent cash payment. Finally, a Government notice of the 13th May, 1851, directed that all quit-rents of a higher annual rental than 2s. for every 100 acres would be reduced to that uniform rate at the expiration of the year 1851; and also that the quit-rents on allotments in country towns would be reduced to one-fourth of the rate fixed in the deeds of grant, with the power of redemption at twenty years' purchase.

With regard to allotments in Sydney and other large towns, which were either granted or leased under the regulations established by Governor Macquarie, the rates levied by him in 1814 were first altered by Sir Thomas Brisbane as follow:—

| | |
|---|---|
| On leases for twenty-one years..... ..... | 6d. per rod. |
| On town grants ..... | 9d. ,, |

A Government order, dated the 29th March, 1829, established the following regulations:—"Upon the approval of applications for town allotments a grant of the *fee simple* will be given, it being the intention of the Government not to issue leases in the future. The rates of annual quit-rents in the several classes of towns shall be as follow:—

| | |
|---|---|
| 1. Sydney ..... ..... | 6d. per sq. perch. |
| 2. Seaport towns ..... ..... | 5d. ,, |
| 3. Towns at the head of navigable rivers..... | 4d. ,, |
| 4. Inland towns..... ... | 2d. ,, |

The said quit-rents shall be unredeemable for ever, but they shall not commence until seven years after the date of authority to take possession, except in the towns of Parramatta and Windsor." Leases were, however, re-established by a Government notice of the 25th August, 1834, by which allotments were allowed to be leased in the country towns only, with covenant to convert the same into grants either upon payment of twenty-one years' quit-rent or upon the erection of buildings to the value of £1,000.

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### Introduction of Land Sales.

The alienation of land to settlers by grant was abolished by Viscount Goderich, Secretary of State for the Colonies. Under the Government and General Order, dated the 14th February, 1831, it was notified that no Crown lands were to be disposed of otherwise than by public competition, the minimum price being fixed at 5s. per acre. Settlers were allowed to select within the settled districts only, and the land thus selected was submitted to auction and sold to the highest bidder, the selector being generally the purchaser. In 1839 the upset price was raised to 12s. per acre, and the practice was introduced of varying this minimum according to the presumed value of the land, making it, as a general rule, from 10 to 20 per cent. less than the price of the last land sold of the same quality, and in the same locality. In the Port Phillip district, land was only brought to sale at the discretion of the Governor.

Until the year 1841 regulations for the sale of land were issued by the Secretary of State; but on the 21st August of that year additional instructions were forwarded to Sir George Gipps, stating that in future it should be competent for the Governor, with the advice of the Executive Council, to revoke the order in force, and to substitute regulations passed by the Colonial Government with regard to the disposal of public lands.

Although grants had been virtually abolished in 1831, a certain quantity of land was still being conveyed to settlers in virtue of promises made by former Governors. The following figures show the area of land granted and sold during the period 1832–1840 :—

| Year. | Area granted. | Area sold. | Year. | Area granted. | Area sold. |
|---|---|---|---|---|---|
| | acres. | acres. | | acres. | acres. |
| 1832 | 15,843 | 20,860 | 1837 | 6,090 | 370,288 |
| 1833 | 14,639 | 29,001 | 1838 | 63,160 | 277,466 |
| 1834 | 27,861 | 91,400 | 1839 | 16,832 | 234,272 |
| 1835 | 5,271 | 271,947 | 1840 | 5,243 | 105,900 |
| 1836 | 16,132 | 389,546 | | | |

In addition to the above, there were sold in the district of Port Phillip, or the Southern District, in—

| | |
|---|---|
| 1837 | 88 acres. |
| 1838 | 38,694 ,, |
| 1839 | 38,347 ,, |
| 1840 | 83,888 ,, |

A new division of the territory had been made under the Land Regulations issued by the Governor and Executive Council on the 21st June, 1841, the Northern District including the country around Moreton Bay; the Middle District, the nineteen settled counties; and the Southern District, the Port Phillip settlement and Gippsland. In the Middle and Northern Districts the upset price was

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maintained at 12s. per acre, but it was raised to 20s. per acre in the Port Phillip District. These Regulations were again superseded by an Act of the Imperial Parliament, entitled "An Act for regulating the sale of waste lands belonging to the Crown in the Australian colonies," which came into force on the 22nd June, 1842. Under this Act the principle of sale at auction was maintained, but the lands applied for were to be surveyed before being put up at quarterly sale, the upset price being fixed at 20s. per acre, payable forthwith. Blocks of unsurveyed land, containing 20,000 acres or more, could, however, be sold in one lot by private contract at not less than the minimum price.

Under the Imperial Act of the 9th March, 1847, amending the above, a new classification of lands took place, and the territory was again divided into—first, settled districts, including the nineteen counties, and the lands in the counties of Stanley and Port Phillip immediately surrounding the settlements at Moreton Bay and Melbourne respectively; second, intermediate districts, comprising a belt of land from 50 to 200 miles inland beyond the boundaries of the settled districts, and in which pastoral occupation had already spread; and, third, unsettled districts, extending westward to the extreme limits of the state. This amending Act did not affect the disposal of Crown lands by public auction or private contract, but it introduced a system of leasing the lands for pastoral purposes, for various terms, in each of the three divisions. During the currency of a lease the land was saleable only to the lessee, and after the expiration of the term the lessee was also allowed a pre-emptive right over all or any part of the land at the upset price of £1 per acre. The legislation of 1847 remained in force in New South Wales, as regards the disposal of public lands by auction sale at £1 per acre, until the year 1861; and in the states of Victoria and Queensland, which were separated from the mother state in 1851 and 1859 respectively, until repealed by Acts of the local Parliaments. The following table shows the area of land sold and granted in New South Wales from the year 1841 to 1861 inclusive under the regulations described :—

| Year. | Area granted. | Area sold. | Year. | Area granted. | Area sold. |
|---|---|---|---|---|---|
| | acres. | acres. | | acres. | acres. |
| 1841 | 18 | 31,275 | 1852 | 57 | 25,812 |
| 1842 | 15 | 5,713 | 1853 | 612 | 65,870 |
| 1843 | 7 | 4,037 | 1854 | 2,085 | 78,221 |
| 1844 | 28 | 3,701 | 1855 | 297 | 122,667 |
| 1845 | 34 | 3,763 | 1856 | 227 | 163,952 |
| 1846 | 64 | 3,036 | 1857 | 85 | 137,867 |
| 1847 | 834 | 2,602 | 1858 | 444 | 123,548 |
| 1848 | 112 | 3,232 | 1859 | 518 | 155,171 |
| 1849 | 861 | 7,341 | 1860 | 193 | 109,217 |
| 1850 | 548 | 12,191 | 1861 | 459 | 189,937 |
| 1851 | 103 | 21,747 | | | |

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From 1841 to 1851 there were also granted and sold in the Port Phillip District the following areas :—

| Year. | Area granted. | Area sold. | Year. | Area granted. | Area sold. |
|---|---|---|---|---|---|
| | acres. | acres. | | acres. | acres. |
| 1841 | ..... | 61,197 | 1846 | 6 | 4,578 |
| 1842 | 4 | 27 | 1847 | 17 | 26,073 |
| 1843 | 3 | 831 | 1848 | 2 | 18,007 |
| 1844 | ..... | 181 | 1849 | 46 | 28,091 |
| 1845 | ..... | 3,685 | 1850 | 108 | 40,043 |

In the District of Moreton Bay the following areas were sold and granted from its first settlement in 1842 to its separation in 1859 :—

| Year. | Area granted. | Area sold. | Year. | Area granted. | Area sold. |
|---|---|---|---|---|---|
| | acres. | acres. | | acres. | acres. |
| 1842 | 2 | 11 | 1851 | 5 | 2,282 |
| 1843 | 16 | 360 | 1852 | 105 | 739 |
| 1844 | 5 | 378 | 1853 | 70 | 7,805 |
| 1845 | 1 | 299 | 1854 | ..... | 5,175 |
| 1846 | ..... | 70 | 1855 | ..... | 5,285 |
| 1847 | ..... | 51 | 1856 | 195 | 3,802 |
| 1848 | 2 | 240 | 1857 | 8 | 7,235 |
| 1849 | 8 | 825 | 1858 | 9 | 14,063 |
| 1850 | 4 | 249 | 1859 | ..... | 11,620 |

Thus, from the foundation of the colony to the inauguration of the legislation of 1861, public lands, both in the mother colony and in the territories administered from Sydney, had been disposed of as follows :—

| Period. | In New South Wales proper. | In Van Diemen's Land. | In Port Phillip District. | In Moreton Bay District. |
|---|---|---|---|---|
| | acres. | acres. | acres. | acres. |
| From 1787 to 1823 ..... | 520,077 | 57,423 | ..... | ..... |
| From 1824 to 1836 ..... ..... | 4,268,750 | ..... | ..... | ..... |
| From the first settlement in Port Phillip in 1837 to 1841 ..... | 1,110,544 | ..... | 222,214 | ..... |
| From the first settlement in Moreton Bay in 1842 to the separation of Port Phillip in 1850 ..... ..... | 48,119 | ..... | 121,702 | 2,521 |
| From 1851 to the separation of Moreton Bay in 1859 ..... | 899,283 | ..... | ..... | 58,398 |
| During 1860–61 ..... ..... | 299,806 | ..... | ..... | ..... |
| Total from 1787 to 1861 inclusive ... | 7,146,579 | 57,423 | 343,916 | 60,919 |

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As regards the area granted and sold in New South Wales proper, under the various systems described in the preceding pages, the 7,146,579 acres disposed of from the first day of the occupation of the territory to the end of the year 1861 were alienated as follow :—

| | Acres. |
|---|---|
| 1. By grants and sales by private tender to close of 1831 | 3,906,327 |
| 2. ,, ,, in virtue of promises of early Governors made prior to 1831, from 1832–40 inclusive | 171,071 |
| 3. ,, sales at auction, at 5s., 7s. 6d., and 10s. per acre, from 1832–38 inclusive | 1,450,508 |
| 4. ,, ,, ,, ,, 12s. and over per acre, at Governor's discretion, from 1839–41 inclusive | 371,447 |
| 5. ,, ,, ,, ,, 20s. per acre, from 1842–46 inclusive | 20,250 |
| 6. ,, ,, ,, and by purchases in virtue of pre-emptive rights, from 1847–61 inclusive | 1,219,375 |
| 7. ,, grants for public purposes, and for grants in virtue of promise of Governor made prior to the year 1831, and grants in exchange for lands resumed from 1841–61 inclusive | 7,601 |
| Total alienated on 31st December, 1861 | 7,146,579 |

In dealing with the constitution of rural property in the state, it is necessary to mention that, in addition to the modes of alienation of the public lands already described, certain grants were made under special enactments. Instructions issued to Sir Thomas Brisbane directed the Governor to reserve one-seventh of the Crown lands in each county for the purpose of church and school establishments, but these instructions do not seem to have been fully carried out, as the reservations did not amount to anything like the proportional area specified. These reserves were as follow :—County of Bathurst, 136,157 acres ; Camden, 11,428 acres ; Cumberland, 28,081 acres ; Cook, 100 acres ; Durham, 29,453 acres ; Gloucester, 176,091 acres; Hunter, 2,314 acres ; Northumberland, 15,362 acres ; Roxburgh, 1,000 acres ; and St. Vincent, 43,500 acres ; making a total area of 443,486 acres, which subsequent surveys and computation of the area within the limits of the reservations show to be actually 454,050 acres. These lands were administered by the Clergy and School Lands Corporation until the abolition of that body by Order of Council of the 4th February, 1833, whereupon all lands vested in the same reverted to the Crown, and an agent was appointed to determine the claims of purchasers, to whom deeds of grant were made, the said lands being secured to them by a subsequent Act of Council dated the 5th August, 1834. Of the area mentioned above, 171,746 acres were alienated up to the year 1880, when, by the Church and School Lands Dedication Act of that year, the balance of 282,304 acres came under the control of that Department to be administered for the purposes of Public Instruction. The unsold Church and School Lands thus transferred are situated as follow :— In the County of Gloucester, 172,297 acres ; Bathurst, 83,649 acres ; St. Vincent, 18,229 acres ; Cumberland, 3,973 acres ; Durham, 3,361 acres ; Northumberland, 744 acres ; Hunter, 48 acres ; and Camden, 3 acres.

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The Church and School Lands Act of 1897, however, vested these lands in the Crown free from all trusts and provisions affecting the same, but subject to the provisions of the Crown Lands Act of 1884 and any Acts amending the same, thus determining the land as Crown land. Until the areas are classified in accordance with the provisions of the Crown Lands Act of 1895, they can only be dealt with by reservation, dedication, license, or held under special or annual lease.

The Australian Agricultural Company was incorporated by an Act of the Imperial Parliament, dated the 21st June, 1824, and a promise of a grant of 1,000,000 acres made to this Company was fulfilled in the following year. Originally a grant containing 1,048,960 acres was selected in the country surrounding Port Stephens, but in 1832 the Company was authorised to exchange a portion of this grant, containing 600,000 acres, for two allotments situated on the Peel River and on the Liverpool Plains. These three grants contain, according to the latest surveys, the following areas :—

| | Acres. |
|---|---|
| Port Stephens Estate, county of Gloucester | 464,640 |
| Peel River Estate, county of Parry | 249,600 |
| Warrah Estate, county of Buckland | 313,298 |
| Total | 1,027,538 |

In addition to this large area of land, the Company also obtained from the Crown the promise of a lease of the coal-fields at Port Hunter (Newcastle) for 31 years. This was, however, afterwards exchanged for a grant of 500 acres, an area which was increased in 1828 to 2,000 acres of coal land, upon which the Company's collieries are now situated.

## Occupation of Pastoral Lands.

The pastoral lands of New South Wales have been occupied under various systems. Land was held for grazing in the early days by virtue of tickets of occupation, which ceased to be issued on the 1st May, 1827, after which date persons holding such lands were required to pay a quit-rent of 20s. per 100 acres per annum, and to vacate the land at six months' notice. The requirements of the settlers for depasturing their increasing stock induced them to occupy Crown lands without any right except that of first discovery, and as they extended their operations inland the Legislature found itself compelled, on the 28th August, 1833, to pass an Act protecting Crown lands from intrusion and trespass, and commissioners were appointed for the purpose of safeguarding the interests of the state.

The discovery of new country soon had the effect of taking many of the pioneer squatters beyond the limits of settlement as proclaimed on the 14th October, 1829, and without authority or license large tracts of unlocated Crown lands were occupied. Fresh regulations, in which severe penalties were enacted, were issued on the 29th July, 1836, with the view of restraining this unauthorised occupation of the waste lands of the state. These



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regulations being in many cases disregarded, an Act was passed on the 22nd March, 1839, to further restrain this unauthorised occupation; and to provide the means for defraying the expense of police and commissioners appointed by the Government to protect its estate in the border districts, a yearly assessment was levied upon stock at the following rates:—½d. for every sheep; 1½d. per head of cattle; and 3d. for every horse.

The Imperial Act of the 9th March, 1847, which rendered it lawful for the Sovereign, by any Order in Council, to make and establish such regulations as should seem meet for the sale and occupation of the waste-lands, was immediately followed by an order introducing an entirely different system in legislation for the pastoral occupation of lands in New South Wales. Hitherto the tenure had been a yearly one, and the fee was paid on the extent of land occupied by the squatter. For this system was substituted fixity of tenure of lease, and the license fee was calculated upon the stock-carrying capacity of the run. Under the regulations issued in 1847, the term of the pastoral leases in the unsettled districts was fixed at fourteen years; in the intermediate division this term was reduced to eight years; and in the settled districts the yearly tenure was retained. The licensing fee was charged at the rate of £10 for 4,000 sheep, or a proportional number of cattle—which was the minimum at which the stock-carrying capabilities of a run could be assessed—and £2 10s. for every additional 1,000 sheep, or proportionate number of cattle, which the run was estimated to carry. In the settled districts lands were let for pastoral purposes only, in sections of not less than 1 square mile in area, the annual rental for each section being fixed at 10s. The holders of alienated lands were permitted to depasture their stock upon Crown lands adjoining their holdings free of charge, this permission, however, constituting only a commonage right. The Occupation Act of 1861, which abolished the Orders in Council, inaugurated a new system, limiting the tenure of pastoral leases to five years in the unsettled and intermediate or second-class settled districts, and leaving the whole of the pastoral leases open to the operations of the free selectors. The evils resulting from this system led Parliament to adopt in 1884, 1889, and finally in 1895, the measures at present in force, the provisions of which are described further on.

### Robertson's Lands Act.

The conditions of colonisation greatly altered under the powerful attraction of the gold-fields, and after the first excitement of the rush for gold had died out the question of land settlement had to be dealt with in an entirely new spirit, to meet the wants of a class of immigrants of a different type from those contemplated by former enactments, the result being the passing of the Crown Lands Act of 1861, under the leadership of Sir

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John Robertson. Before this Act became law the conditions of settlement rendered it difficult for men of small means to establish themselves with a fair chance of success. The new measure aimed at facilitating the settlement of an industrial agricultural population side by side with the pastoral tenants, and with this view the Act introduced a principle entirely new to the land legislation of the state, namely, that of free selection, in limited areas, *before survey*. To this privilege was attached the condition of *bona fide* residence, and the land was to be sold at a fixed price, carrying interest on the balance outstanding, after deducting the amount of the deposit, at the rate of 5 per cent. per annum. This provision, however, was modified by the Amending Act of 1875, under which annual instalments were payable, and the option was given to any conditional purchaser of lands taken up prior to this amendment to avail himself of the change in the method of payment. The system of unconditional sales was, however, continued under the Act of 1861; and during the twenty-three years in which this Act was in operation there were sold 23,470,140 acres conditionally, and 15,572,001 acres by auction, improvement purchase, in virtue of pre-emptive right, or otherwise without conditions, the total area alienated being 39,042,141 acres. In a very large number of cases the land selected or purchased reverted to the state, so that the absolute area sold or in process of sale when the Act of 1884 came into force amounted to only 32,819,023 acres, besides 7,146,579 acres alienated prior to 1861.

## The Crown Lands Acts of 1884 and 1889.

The Act of 1861 was, after many amendments, superseded by that of 1884, with the supplementary enactment of 1889. Though differing widely from the former Act in many important particulars, these measures maintained the principle of free selection before survey, but with one essential difference. Under the original Act the whole area of the Crown lands of the state was thrown open to free selection, and the lands held under pastoral lease were not exempted from the operation of this law. While maintaining the principle of selection before survey, the aims of the Acts of 1884 and 1889 were to give fixity of tenure to the pastoral lessees and to obtain a larger rental from the public lands, at the same time restricting the area sold unconditionally. For this last purpose the holder of a pastoral lease under the old Act was required to surrender one half of his lease, which was resumed by the Crown for subsequent alienation, leasehold or reserve; the other half remaining in the leasehold occupation of the pastoralist under fixity of tenure for a term of years. It was computed on the 31st December, 1884, when this division was made, that there were within the state 4,313 leased runs, yielding an annual rental in round figures of £268,500, and forming about 1,600 "stations," estimated to contain the bulk of the unalienated public estate, after allowing for reserves, etc. That the

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increase in the revenue from pastoral occupation, which was one of the principal objects of the alterations introduced in the land legislation by the Act of 1884, has been realised, may be gathered from the fact that during the financial year 1900–1901 the total rental received from the occupation of Crown lands amounted to £623,052. The Act of 1884 became law on the 1st January, 1885, and that of 1889 came into operation on the 1st December of that year.

## The Crown Lands Act of 1895.

Whatever may have been the merits of the Act of 1861, it conspicuously failed to encourage *bona fide* settlement; nor can it be said that the legislation of 1884 and 1889 succeeded where the original Act had failed, as the accumulation of land in large estates continued, while settlement, properly so called, proceeded very slowly. Expert opinion strongly pointed to the necessity of introducing entirely new principles into the agrarian legislation of the state, and this has been done in the Crown Lands Act of 1895, which not merely remedies the defects of previous legislation, but, while placing land within easy reach of all, seems to supply, by the introduction of new systems of tenure, viz., homestead selections and settlement leases, something that was needed to transform the land speculators into settlers properly so called.

For the purpose of carrying out land legislation, there are three Land Divisions in the state, viz., the Eastern, the Central, and the Western. These are subdivided into Land Districts; and a Land Agent, whose duty it is to receive applications for land in accordance with certain regulations, resides in each district. Groups of these districts are joined together under an administrative Board, and form what is called a Local Land Board District. The Land Board consists of a chairman and one or two ordinary members. An appeal to the Land Appeal Court may be made against a decision of the Board. This Court is composed of a President and two Commissioners appointed by the Executive, whose decisions in matters of administration have the force of judgments of the Supreme Court; but whenever questions of law become involved, a case may be submitted to the Supreme Court, either at the written request of the parties interested, or by the Land Appeal Court acting of its own accord. The judgments given on such appeals are, however, subject to final determination by the Privy Council. The conditions of alienation and pastoral occupation of Crown lands differ in each of the three divisions of the state.

The Eastern Division has an area of 60,450,000 acres, and includes a broad belt of land comprised between the sea-coast and a line nearly parallel thereto. This line starts from a point midway between the small settlements of Bonshaw and Bengalla on the Dumaresq River, on the northern frontier, and terminates at Howlong on the River Murray,

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and thus embraces the coastal district of the state, as well as the northern and southern tablelands. In this division lie all the original centres of settlement, and the markets of the state are more readily accessible to it than to the other districts. In it, moreover, is to be found some of the best agricultural land in New South Wales. For these reasons, the conditions for the purchase and occupation of the Crown lands in the Eastern Division are more restricted than is the case in the Central and Western Divisions.

The Central Division of the state embraces an area of 55,460,000 acres, extending from north to south between the western limit of the Eastern Division and a line starting from a point on the Macintyre River, where it is crossed by the 149th meridian of east longitude and following this river and the Darling to the junction of Mara Creek; thence along that creek to the Bogan River, and across to the River Lachlan, between the townships of Euabalong and Condobolin, along the Lachlan to Balranald, and thence to the junction of the Edward River with the Murray, on the frontier of Victoria. The Central Division thus embraces the upper basin of the Darling River in the northern part of the state, and portions of those of the Lachlan, the Murrumbidgee, and the other affluents of the Murray in the south. The land in this division is mainly devoted to pastoral pursuits; but experience having proved that agriculture can be successfully carried on, the area cultivated has considerably increased. The rainfall, however, being less regular, and the distance from markets greater than in the Eastern Division, and the land, moreover, being of inferior value, the legislation provides for the selection of larger areas than in the latter district.

The Western Division comprises the whole of the land situated between the western limit of the Central Division and the South Australian border. It embraces an area of 79,972,150 acres, watered by the Darling River and its tributaries. This part of New South Wales is essentially devoted to pastoral pursuits. Water conservation and irrigation may in time counteract climatic conditions and irregular rainfall, and make agriculture possible over this large area, as its soil is adapted to the growth of any kind of crop; but legislation in regard to the occupation of the lands of the district is based upon the assumption that for many years to come there will be little inducement for agricultural settlement.

Under the provisions of the various Acts forming the legislation now in force, land may be acquired as an alienation in the following manner:—(1) By conditional purchase; (2) by auction sale; (3) by after auction sale; (4) by purchase in virtue of improvements; (5) by special purchase; and (6) by exchange. The most important of these forms is that of conditional purchase. The system of homestead selections is practically a form of alienation, the tenure being freehold, subject to an annual charge in perpetuity.

With regard to the leasing of Crown lands, the different forms of occupation are—(1) Conditional leases; (2) settlement leases; (3)

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improvement leases; (4) pastoral leases; (5) homestead leases; (6) occupation licenses; (7) annual leases; (8) scrub and inferior land leases; (9) snow-land leases; (10) residential leases on mining-fields; (11) mineral leases; (12) special leases; and (13) artesian-well leases.

*Conditional Purchases.*—An ordinary residential conditional purchase may be obtained in the Eastern and Central Land Divisions, but not in the Western Division, by any person of or over the age of 16 years, with the usual legal qualifications. Ordinary Crown lands are open to selection at a price of £1 per acre. A deposit of 2s. per acre and a survey fee, according to a fixed scale, must be paid at the time of application. The balance, with interest at the rate of 4 per cent. per annum, is payable in thirty instalments of 1s. per acre, covering principal and interest, the first instalment being due at the expiration of the third year. In the Eastern Division the maximum area which can be selected is 640 acres, and the minimum 40 acres; in the Central Division the maximum is 2,560 acres. Every residential conditional purchase carries with it the right of taking up a conditional lease, which, however, cannot exceed three times the area of the conditional purchase, and the total area of both purchase and lease cannot exceed 1,280 acres in the Eastern Division or 2,560 acres in the Central Division.

The holder is required to reside upon his selection for a continuous term of ten years from the date of application, and residence must commence within three months after the application has been confirmed by the Local Land Board. Within three years from the date on which the application is confirmed the land must be enclosed with such a fence as the Board may prescribe; or, at the selector's own option, substantial and permanent improvements may be substituted for fencing. Application may also be made for the suspension of the conditions of residence and of fencing or improvements for a period not exceeding six months; or the suspension of payment of instalments for a period not exceeding twelve months may be granted by the Minister, but in this case the selector must reside on the land.

Additional purchases may be made until the maximum area is reached, and each additional conditional purchase is subject to the conditions of residence, but the place of residence may be on any of the blocks selected, and in certain cases the additional residence is not insisted upon.

At the expiration of five and ten years from the date of application, inquiries are made by the Land Board, and if the conditions have been satisfactorily fulfilled certificates are issued. A conditional purchase may be transferred after the issue of the first certificate—that is, after five years' residence. After the issue of a certificate of conformity, any purchase of land of 100 acres or more in extent may be subdivided, the balance paid on a portion, not less than 40 acres, and the deed obtained for that part.

The following table shows the total amount payable as principal and interest every year on a selection of 40 acres, the price of which, without interest, is £40. It will be seen that the amount of interest

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payable is £24 1s. 3d., making a total of £64 1s. 3d., or £1 12s. 0⅜d. per acre.

| When due. | Payments. | How each payment is applied. | | Balance owing. | Amount upon which interest is charged. |
|---|---|---|---|---|---|
| | | Interest, 4 % for 1 year. | Principal. | | |
| | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. |
| Deposit of 2s. per acre..... | 4 0 0 | ..... | 4 0 0 | 36 0 0 | ..... |
| Instalment of 1s. per acre at end of 3rd year ... | 2 0 0 | ..... | 2 0 0 | 34 0 0 | ..... |
| ,, 4th ,, ... | 2 0 0 | 1 7 3 | 0 12 9 | 33 7 3 | 34 0 0 |
| ,, 5th ,, ... | 2 0 0 | 1 6 9 | 0 13 3 | 32 14 0 | 33 7 3 |
| ,, 6th ,, ... | 2 0 0 | 1 6 2 | 0 13 10 | 32 0 2 | 32 14 0 |
| ,, 7th ,, ... | 2 0 0 | 1 5 7 | 0 14 5 | 31 5 9 | 32 0 2 |
| ,, 8th ,, ... | 2 0 0 | 1 5 0 | 0 15 0 | 30 10 9 | 31 5 9 |
| ,, 9th ,, ... | 2 0 0 | 1 4 5 | 0 15 7 | 29 15 2 | 30 10 9 |
| ,, 10th ,, ... | 2 0 0 | 1 3 9 | 0 16 3 | 28 18 11 | 29 15 2 |
| ,, 11th ,, ... | 2 0 0 | 1 3 2 | 0 16 10 | 28 2 1 | 28 18 11 |
| ,, 12th ,, ... | 2 0 0 | 1 2 6 | 0 17 6 | 27 4 7 | 28 2 1 |
| ,, 13th ,, ... | 2 0 0 | 1 1 9 | 0 18 3 | 26 6 4 | 27 4 7 |
| ,, 14th ,, ... | 2 0 0 | 1 1 0 | 0 19 0 | 25 7 4 | 26 6 4 |
| ,, 15th ,, ... | 2 0 0 | 1 0 4 | 0 19 8 | 24 7 8 | 25 7 4 |
| ,, 16th ,, ... | 2 0 0 | 0 19 6 | 1 0 6 | 23 7 2 | 24 7 8 |
| ,, 17th ,, ... | 2 0 0 | 0 18 8 | 1 1 4 | 22 5 10 | 23 7 2 |
| ,, 18th ,, ... | 2 0 0 | 0 17 9 | 1 2 3 | 21 3 7 | 22 5 10 |
| ,, 19th ,, ... | 2 0 0 | 0 16 11 | 1 3 1 | 20 0 6 | 21 3 7 |
| ,, 20th ,, ... | 2 0 0 | 0 16 0 | 1 4 0 | 18 16 6 | 20 0 6 |
| ,, 21st ,, ... | 2 0 0 | 0 15 0 | 1 5 0 | 17 11 6 | 18 16 6 |
| ,, 22nd ,, ... | 2 0 0 | 0 14 0 | 1 6 0 | 16 5 6 | 17 11 6 |
| ,, 23rd ,, ... | 2 0 0 | 0 13 0 | 1 7 0 | 14 18 6 | 16 5 6 |
| ,, 24th ,, ... | 2 0 0 | 0 11 11 | 1 8 1 | 13 10 5 | 14 18 6 |
| ,, 25th ,, ... | 2 0 0 | 0 10 9 | 1 9 3 | 12 1 2 | 13 10 5 |
| ,, 26th ,, ... | 2 0 0 | 0 9 7 | 1 10 5 | 10 10 9 | 12 1 2 |
| ,, 27th ,, ... | 2 0 0 | 0 8 5 | 1 11 7 | 8 19 2 | 10 10 9 |
| ,, 28th ,, ... | 2 0 0 | 0 7 2 | 1 12 10 | 7 6 4 | 8 19 2 |
| ,, 29th ,, ... | 2 0 0 | 0 5 10 | 1 14 2 | 5 12 2 | 7 6 4 |
| ,, 30th ,, ... | 2 0 0 | 0 4 6 | 1 15 6 | 3 16 8 | 5 12 2 |
| ,, 31st ,, ... | 2 0 0 | 0 3 0 | 1 17 0 | 1 19 8 | 3 16 8 |
| ,, 32nd ,, ... | 2 0 0 | 0 1 7 | 1 18 5 | 0 1 3 | 1 19 8 |
| Final payment..... | 0 1 3 | ..... | 0 1 3 | ..... | ..... |
| Total ..... | 64 1 3 | 24 1 3 | 40 0 0 | ..... | ..... |

In the course of the year 1896, however, an Act was passed for the relief of holders of conditional purchases who found the ordinary rate of payment too burdensome. Under this Act the Minister for Lands is given power to reduce the annual instalment of 1s. per acre to 9d. or even 6d. per acre, always provided that under the reduced rate the balance of purchase money with the interest thereon will be extinguished within sixty-six years from the date when the first instalment after payment of the deposit became due. The conditional purchase in

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respect of which relief is requested must form part of the holding on which the applicant resides, unless the Minister is satisfied that the applicant holds the land *bona fide* for his own use, and is not able to make payment at the original rate, and is not the holder of a greater area than is necessary for the maintenance of a family.

*Non-residential Conditional Purchases.*—Any person of or over the age of 21, who has never taken up an ordinary residential conditional purchase, may take up a non-residential conditional purchase in either the Eastern or the Central Land Division. The maximum area is 320 acres, and the conditions are the same in both divisions. The price per acre, and the amount of the deposit and of the instalments, are double those fixed for an ordinary residential conditional purchase, but the scale of survey fees is the same. This form of selection does not entitle the purchaser to hold a conditional lease. The land must be fenced in within twelve months from the date of confirmation; and within five years from that date the holder must satisfy the Board that permanent improvements (not including the boundary fencing) have been made to the value of £1 per acre. If the substitution of other improvements in lieu of fencing be obtained in connection with a non-residential conditional purchase, the sum expended must be at the rate of 30s. per acre. The only addition which a holder can make to his purchase is by increasing it to the maximum area.

*Classified Conditional Purchases.*—By virtue of an amending Lands Act, passed during 1899, lands set apart for conditional purchase or conditional lease become available for conditional purchase at prices specified at the time of notification, whether above or below £1 per acre. They may also be taken up under any other form of purchase, or any form of lease or license, unless the notification contains a proviso to the contrary, or unless the lands are specially reserved. As in the case of ordinary conditional purchases, the maximum area which may be selected is 640 acres in the Eastern Division, and 2,560 acres in the Central Division. The conditions as to residence and improvements are also similar. Provision is, however, made that the deposit shall be equivalent to 10 per cent. of the price of the land, and that each annual instalment shall, with interest added, be equal to five per cent. of the purchase price.

*Conditional Purchases within Special Areas.*—Special areas may be reserved from the operations of the ordinary conditional purchase clauses of the Act, and thrown open to selection under different terms as to payment, with or without the condition of residence; but in such special areas the price of the land cannot be less than £1 10s. per acre if the selector elect to fulfil the condition of residence, while a non-resident purchaser is charged double that price. The maximum and minimum areas that may be selected within special areas are always specified in the proclamation throwing the lands open, but the maximum cannot exceed 320 acres in the Eastern Division, nor 640 acres in the Central and Western Divisions. The deposit required is also

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stated in the proclamation, being generally one-tenth of the price, and the instalments are one half the amount of the deposit. As in the case of ordinary conditional purchases, the Relief Act of 1896 has given the Minister for Lands power to reduce the rate of instalments previously payable to three-quarters or one-half. The conditions to be fulfilled are similar to those of the ordinary residential and non-residential conditional purchases. Conditional leases of ordinary land can be taken up by virtue of conditional purchases within special areas, but only in the Central Division.

The following is the scale of survey fees for conditional purchases of any description :—

| Area. | For an Original Conditional Purchase. | For an Additional Conditional Purchase or Conditional Lease. |
|---|---|---|
| | £ s. d. | £ s. d. |
| For any area not exceeding 4 acres. . ..... ..... | 1 0 0 | 0 15 0 |
| For every additional acre, or fraction of an acre, up to 10 acres ..... | 0 3 4 | 0 2 6 |
| For 10 acres . ..... | 2 0 0 | 1 10 0 |
| For every additional acre, or fraction of an acre, up to 20 acres ..... ..... ..... | 0 2 0 | 0 1 6 |
| For 20 acres ..... ... ..... | 3 0 0 | 2 5 0 |
| For every additional acre, or fraction o an acre, up to 40 acres ..... | 0 1 0 | 0 0 9 |
| For 40 acres ..... ..... | 4 0 0 | 3 0 0 |
| For every additional 5 acres, or fraction of 5 acres, up to 80 acres ..... | 0 2 6 | 0 1 10½ |
| For 80 acres ..... | 5 0 0 | 3 15 0 |
| For every additional 10 acres, or fraction of 10 acres, up to 320 acres ..... | 0 2 6 | 0 1 10½ |
| For 320 acres ..... ..... | 8 0 0 | 6 0 0 |
| For every additional 15 acres, or fraction of 15 acres, up to 640 acres ..... ..... ..... | 0 2 6 | 0 1 10½ |
| For 640 acres ..... ..... | 10 15 0 | 8 1 3 |
| For every additional 20 acres, or fraction of 20 acres, up to 1,280 acres ..... | 0 2 6 | 0 1 10½ |
| For 1,280 acres ..... ..... ..... | 14 15 0 | 11 1 3 |
| For every additional 40 acres, or fraction of 40 acres, up to 2,560 acres . ..... | 0 2 6 | 0 1 10½ |
| For 2,560 acres ..... | 18 15 0 | 14 1 3 |

Conditional purchases and conditional leases may be converted into homestead selections, on terms stated under the latter heading.

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The capital value of conditional purchases and conditional leases, applied for prior to the 30th December, 1898, and held *bona fide* for the applicant's sole use and benefit may be the subject of reappraisement up to an area, sufficient, in the opinion of the Local Land Board, to enable him to maintain a home thereon, provided the application is lodged prior to the 30th December, 1901.

*Auction Sales.*—Crown lands may be submitted for sale by auction in each Land Division, but not more than 200,000 acres can be thus alienated in any one year. The area of town lots is limited to half-an-acre each, and the upset price cannot be less than £8 per acre; suburban lots cannot be sold in areas exceeding 20 acres, or at a lower upset price than £2 10s. per acre; country lots cannot exceed 640 acres, and the minimum upset price is 25s. per acre. Under ordinary auction sales the payment must be completed within three months, but arrangements may be made under a system of deferred payments, the minimum prices, however, not being less than those given above. In every case a deposit of 25 per cent. must be paid, and the payments cannot extend over a longer period than five years. Deferred payments bear interest at the rate of 5 per cent. per annum.

*After Auction Sales.*—Any town or suburban Crown lands, or Crown lands within population areas, which have been offered for sale by auction and not sold, may be taken up at the last upset price notified, by any person applying for the same, subject to the approval of the Minister. At the time the application is lodged, one-fourth of the upset price is required to be paid, and the balance on the approval of the application. The sale is subject to the same conditions as are prescribed in connection with the submission of the land at auction.

*Improvement Purchases.*—Persons who, by virtue of a miner's right or business license issued under the Mining Act, are in authorised occupation of and residing on land within a proclaimed gold-field may, in consideration of improvements made thereon, apply to the Local Land Agent for permission to purchase the land without competition at a price to be fixed by the Land Board. The area, however, is limited to 1 rood of town land and 1 acre of other land, and a distance of 3 miles must separate any two or more portions purchased by the same applicant.

*Special Purchases.*—Reclaimed lands, unnecessary roads, water frontages, land to which no way of access is obtainable, land insufficient in area for conditional purchase, and other areas of a similar nature, may be sold to the holder of the adjacent property without competition, and in all such cases the price is fixed by the Land Board.

*Volunteer Land Orders.*—Any person who was enrolled as a volunteer between the years 1868 and 1875, and underwent five years' continuous training, is entitled to a free grant of 50 acres open for conditional purchase; but this form of alienation is now virtually extinct, only ten grants being made in 1893, none during 1894 and 1895, one during 1896, four during 1897, and five during 1898. The orders are transferable.

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*Exchanges.*—Under the 46th section of the Act of 1889, and section 47 Act of 1895, provision is made for the surrender of land in certain cases in exchange for land of equal value, and without any monetary consideration.

*Homestead Selections.*—The acquisition of land in this manner is a feature of the Crown Lands Act of 1895, and a distinct departure from old forms. Tracts of land are surveyed and valued, and all particulars are notified in the *Government Gazette* and a local newspaper. For a period of forty days after being gazetted, these areas remain open for additional conditional purchase by holders residing on adjacent conditional purchases. Any person of or over 16 years of age, and possessing the usual legal qualifications, is entitled to apply for a homestead selection. The area that may be selected is fixed according to the capabilities of the land; but in no case can it exceed 1,280 acres, and the selector is bound to take the block he applies for as it is gazetted—he cannot take a portion only. The tenure is freehold, subject to rent and residence in perpetuity. At the time of application six months' rent is required. The survey fee is on the same scale as that fixed for conditional purchases, one-third being payable on application, one-third at the end of twelve months, and one-third at the end of the second year. Until the grant is issued the rental is 3d. in the £ (or $1\frac{1}{4}$ per cent. on the capital value of the land); after the issue of the grant the rent is 6d. in the £ (or $2\frac{1}{2}$ per cent.) The original valuation stands for fifteen years, after which a fresh appraisement is made every ten years. The only condition required by the Crown by way of improvement is the erection of a dwelling-house of the value of £20, and residence must commence within three months from the date on which the application is confirmed. The house must be erected within eighteen months, and afterwards maintained in good order. The obligation of perpetual residence is a provision made to ensure the land being used for the purpose intended, and as a guard against monopoly; nevertheless, under certain circumstances the condition of residence may be relaxed. The interest of a holder is liable to be forfeited for non-fulfilment of conditions or non-payment of rent. After five years the holding may be transferred, but the condition as to residence attaches to each successive transferee. Tenant right in improvements is given if the selection is surrendered or forfeited. Any improvements which may be on the land when it is selected must be paid for at their appraised value in four equal yearly instalments, with interest at the rate of 4 per cent. per annum.

If a number of homestead selectors, embracing at least twenty families, desire to form a village adjacent to their holdings, the condition as to residence on the holdings may be dispensed with at the discretion of the Governor, and residence in such village or settlement substituted, subject to such conditions as may be prescribed.

The homestead selector may avail himself of the privilege of protecting his holding, so that it cannot be sold under a writ of execution or taken from him in the case of insolvency, but to effect this protection

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the selector must be solvent at the time when he applies for registration. Should a holder be compelled by adverse circumstances to abandon his selection, a certificate to that effect may be obtained, qualifying him to apply for another selection.

In the case of persons desirous of making a home on the land, but who for a time are debarred by their present calling or other circumstances from taking up their residence thereon, provision is made for residence by a deputy, who must be approved, however, by the Local Land Board, and the applicant must satisfy the Board that it is his intention subsequently to reside on the land. The following special conditions are imposed in such cases :—(1) The full amount of survey fee must be paid at the date of application ; (2) the rent chargeable before the issue of the grant is 3½ per cent. of the capital value ; (3) the value of the dwelling erected must be £40 ; and (4) within three years one-tenth of the area must be in full tillage, and during the fourth and fifth years this area must be increased to one-fifth.

Provided an application was made before the 31st December, 1900, the capital value of homestead selections applied for on or before the 29th December, 1899, may be reappraised. In cases where the application for the homestead selection is of a subsequent date, reappraisement may be made before the selection is confirmed, or within 12 months after, but not later.

Conditional purchases and conditional leases may be converted into homestead selections, the rent chargeable being at the rate of 2½ per cent. on the capital value, which, under the Conditional Purchasers Relief Act of 1896, shall for the first ten years be taken at £1 per acre for a conditional purchase not within a special area ; at the original price for a conditional purchase within a special area ; and for a conditional lease, at a sum obtained by capitalising the annual rent of such lease on a 2½ per cent. basis. Such part of the payments made towards a conditional purchase as may have been applied to the reduction of the principal sum, and not taken to defray interest charges on the outstanding balance, is credited to the holder as rent of the homestead selection from the time of conversion.

The inducement offered to persons of slender means by this system, and the advantages which the homestead selector has compared with the holder of a conditional purchase, are very apparent. For instance, the amount payable during the first year on a homestead selection of 640 acres, valued at £1 per acre, is only £10 13s. 9d., while in the case of a conditional purchase, the same area would entail an expenditure of £74 15s. The improvements which have to be effected under a conditional purchase are not required on a homestead selection, and the land of the homestead selector, as has been stated, cannot be taken from him under any legal process. From the eagerness with which the areas already offered have been taken up, there is no doubt that this form of acquiring land will be largely availed of.

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*Conditional Leases.*—Crown lands open to ordinary conditional purchase in the Eastern and Central Land Divisions are available for conditional lease in connection with residential conditional purchases, excepting those within special areas in the Eastern and Western Divisions. The area of any conditional lease cannot exceed three times that of the conditional purchase or purchases in right of which it is applied for, and cannot be less than 40 acres; nor can the combined area of the purchase and lease exceed 1,280 acres in the Eastern Division, or 2,560 acres in the Central Division. The land applied for must also adjoin the conditional purchase by virtue of which it is granted. The lease has a term of twenty-eight years, and pending appraisement a provisional rent of 2d. per acre is payable annually. The first appraisement made by the Land Board stands for fifteen years, and for the remaining period the land is subject to a reappraisement.

As conditional purchases other than within special areas cannot, under existing legislation, be taken up in the Western Division, no conditional leases are obtainable there. The conditional leases current in this division were pre-emptive leases converted under the provisions of the Land Act of 1884.

At any time during its currency a conditional lease or any portion of it adjoining the previous series may be converted into an additional conditional purchase, and as this right is almost invariably availed of the land held under conditional lease may practically be considered as alienated.

*Settlement Leases for Agriculture and Grazing.*—These areas, like homestead selections, are specially set apart by notification in the *Government Gazette*. The land is measured, and each portion is valued according to its capabilities and situation. Areas set apart for agricultural purposes cannot exceed 1,280 acres, but for grazing purposes the maximum is 10,240 acres. The term of a lease is twenty-eight years, and the annual rent is $1\frac{1}{4}$ per cent. on the capital value. Six months' rent, together with the prescribed survey fee, must accompany the application. The appraised value of improvements on the land when taken up, with interest at 4 per cent. per annum, may be paid in three equal yearly instalments. The conditions are continuous residence during the term of the lease, and the enclosing of the holding within five years from the issue of the lease; the lessee is also required to conform to any regulations made regarding noxious animals and the clearing of scrub, and such other provisions as may be deemed expedient in the public interest. The lease cannot be assigned or sub-let without the consent of the Minister. During the last year of the term the lessee may apply for that part of the lease on which his residence stands as a homestead selection, the area not to exceed 1,280 acres.

Provided an application was made before the 31st December, 1900, the capital value of settlement leases applied for on or before 29th December, 1899, may be reappraised. In cases where the application for the settlement lease is of a subsequent date, reappraisement may be made before the lease is confirmed, or within 12 months after, but not later.

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The following is the scale of survey fees for settlement leases. In any case where the cost of survey proves to be less than the scale rates, the difference may be refunded:—

| | £ | s. | d. |
|---|---|---|---|
| Up to 2,560 acres, as for an original conditional purchase (*see* page 441.) | | | |
| For 2,560 acres | 18 | 15 | 0 |
| For every additional 40 acres up to 3,840 acres, 2s. 6d. | | | |
| For 3,840 acres | 22 | 15 | 0 |
| For every additional 40 acres up to 5,760 acres, 2s. | | | |
| For 5,760 acres | 27 | 11 | 0 |
| For every additional 40 acres up to 7,680 acres, 1s. 6d. | | | |
| For 7,680 acres | 31 | 3 | 0 |
| For every additional 40 acres up to 10,240 acres, 1s. | | | |
| For 10,240 acres | 34 | 7 | 0 |

*Improvement Leases.*—This form of lease, like settlement leases and homestead selections, is an introduction of the Crown Lands Act of 1895. The lands which may be taken up are comprised of scrub and inferior land in any division. They are disposed of either by auction or tender, and in no case can the area of a lease exceed 20,480 acres. The term of a lease is twenty-eight years; the rent is the amount bid at auction or accepted by tender, but an upset price may be fixed, and the Governor is not bound to accept any tender. The provisions made for the improvement of the land vary according to the circumstances of each case, and the last holder has tenant-right in improvements. Residence on the land is not compulsory; but if the lessee resides thereon he may, during the last year of the term, make application to convert the residential portion into a homestead selection; but the area cannot exceed 640 acres, and must carry improvements to the value of £1 per acre.

*Pastoral Leases.*—The largest areas taken up for pastoral purposes are held under this form of lease. Under the Act of 1884 the large holdings of the squatters were each divided into two portions, called respectively the resumed area and the leasehold area. The resumed area was leased under occupation license, renewable annually, but the land remained open for selection under conditional purchase and conditional lease. The leasehold area was returned to the lessee, who was entitled to hold it for a fixed term of years, varying in each Land Division. In the Eastern Division the pastoral leases expired in 1890, and they cannot now be renewed, nor can fresh areas be leased. In the Central Division pastoral leases terminated in 1895, but in accordance with the privilege granted under the Act of 1889, a great number of the leases have been extended for short periods, varying from one to five years. Provision has, however, been made in connection with these renewals for the withdrawal of such portions as may be required under other forms of settlement. After due inquiry by the Land Board, the Minister can authorise the division of the area into two parts as nearly equal as is practicable, and the portion from which withdrawals may be made is subsequently defined. By way of compensation for such withdrawals, the pastoral lessee secures an extension of the balance of his lease

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based upon the area withdrawn and period of lease therefor, and as a consequence some of the pastoral leases will not determine until 1904.

The pastoral leases in the Western Division were, under the Act of 1884, given a currency of fifteen years, which was increased to twenty-one years by the Act of 1889, and by the Crown Lands Act of 1895 the term was further extended to twenty-eight years, calculated from the commencement of the lease. The rent of each lease varies with the appraised value of the land, and lessees have tenant-right in improvements. The resumed area may be amalgamated with the leasehold area in cases in which the Local Land Board, after inquiry, is satisfied that such resumed area is not required and is not likely to be required for settlement before the expiration of the pastoral lease. Withdrawals of portions of the pastoral leases for settlement purposes may be made in the Western Land Division as in the Central; but the maximum area which can be withdrawn is limited to one-eighth of the leasehold, and the land must not be more than 10 miles distant from the boundary of a town containing at least fifty inhabitants.

*Occupation Licenses.*—Land held under occupation license consists mostly of the resumed areas of pastoral holdings divided by the Act of 1884, and the expired leases of the Eastern and Central Divisions. Land withdrawn from pastoral lease for settlement in the Central and Western Divisions may also be held under occupation license. A pastoral lessee in the Central Division has a preferential right to an occupation license of any area formerly held by him under pastoral lease, and in both the Central and Western Divisions this privilege extends to land withdrawn from the existing lease for settlement purposes. The license is annual, covering the calendar year, and the fee is payable at the time of granting or renewing the license. Under an amending Act, passed in 1896, land held under occupation license may be withdrawn from the holder on receipt of an application for such land as a homestead selection, or under settlement lease, provided the holder of the occupation license is informed of the application by the Land Agent within one week of its receipt.

*Artesian Well Leases.*—To encourage the holders of occupation licenses and annual leases in the Western Division to bore and search for water, the lessee or licensee is entitled to a lease with security of tenure for such a period as may be approved by the Governor, and at the same rent as that charged for the existing lease or license in cases where artesian water is discovered in a satisfactory quantity. Only one such area may be leased out of each 64,000 acres held under occupation license, and not more than three areas out of the same occupation license, the total extent of an artesian well lease being limited to 10,240 acres.

*Homestead Leases.*—This form of lease is granted for the resumed areas or the vacant lands of the Western Division only; lands held under annual lease or occupation license are, therefore, open to homestead lease. The minimum area obtainable is 2,560 acres, and the maximum,

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10,240 acres. If the maximum area is not taken up in the first instance, additions may be made until that area is reached, but these additions may not consist of less than 2,560 acres, except in certain cases, when the minimum additional area may be 640 acres. Additional leases terminate on the same date as the original lease, and have consequently a shorter term. The term of lease is twenty-eight years, and the rent is appraised every seven years. A deposit of 1d. per acre, with £10 on account of survey fee, is required on making the application. Within sixty days from the date on which the lease is gazetted the balance of the cost of survey is due; and the rental is payable annually in advance. Continuous residence for six months in each year for the first five years is required. Residence must commence within ninety days from the approval of the lease; but the lessee may, at his own risk, enter into occupation immediately after making application. The date of commencing the six months' residence in any year must be previously notified to the Local Land Board. The boundaries of the land must be enclosed within two years from approval of the lease with such a fence as the Board may prescribe; upon satisfactory cause being shown, however, a suspension of the conditions as to residence and fencing may be obtained, and an extension of time granted. The Local Board is empowered to make inquiry as to whether the conditions have been adhered to by the lessee, and the lease is liable to forfeiture in the event of their non-fulfilment. Arrangements for the sub-letting of homestead leases are required to be in writing, and a certified copy of the document sent to the Chairman of the Local Land Board, any disregard of this regulation being taken as evidence that the lease is not held in good faith. After the conditions as to residence are fulfilled the lease is transferable. The portion of the lease on which the lessee has his dwelling may, during the last year of the term, be applied for as a homestead selection.

*Annual Leases.*—Crown lands which are not held under other forms of lease, and are not exempt from lease, may be let on annual lease in any Land Division by auction or tender, or upon application, in areas not exceeding 1,920 acres; and lands reserved from sale are not withheld from annual lease. The minimum rental cannot be less than £2 for every 640 acres or lesser area. An original lease dates from the first day of the month following its notification in the *Gazette*, or if the land has been leased at auction, the first day of the month following the date of sale; but the first year expires on the 31st December, rent being charged only for the number of months during which the leasehold has been occupied, so that all renewals of leases cover the calendar year. Improved lands let on annual lease are subject to an additional rent for the use of improvements, and where the improvements do not belong to the Crown an agreement has to be come to by the parties concerned, failing which an appraisement is made by the Land Board. The improvements must be of a fixed and substantial character and necessary for the occupation of the land, and before

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valuation the owner may, with the permission of the Board, take away such as are of a removable nature. Under the Crown Lands (Homestead Selections and Settlement Leases) Act of 1896 (59 Vic. No. 26) land held under annual lease is withdrawn by application for such land as a homestead selection or under settlement lease, but the Land Agent must notify the holder of the annual lease within one week of the receipt of the application.

*Scrub Leases.*—Lands, whether vacant or otherwise, wholly or partly covered with scrub or noxious undergrowth may, upon the recommendation of the Local Land Board in any district, be declared scrub lands, and after notification in the *Government Gazette*, may be leased by auction or tender, or upon application, for such periods, not exceeding twenty-one years, as the Minister may deem expedient. Under the Crown Lands Act of 1895, however, the leases of scrub and inferior lands may, upon application, be extended by the Governor to twenty-eight years, the term allowed for improvement leases. Until they are leased in this form, scrub lands cannot be withdrawn from any lease or license under which they may be held; and if the lands form part of a homestead or a pastoral lease, the scrub lease can only be granted to the homestead or the pastoral lessee; but a homestead or a pastoral lessee cannot take up a scrub lease outside his own holding, and the term of his scrub lease expires with that of his homestead or pastoral lease. During the whole currency of a scrub lease, the land cannot be made available for purchase or other form of lease. The conditions are that the holder shall take such steps for the destruction of the scrub and noxious growth as the Board may direct, and shall afterwards keep the land free from such growth. These operations must be commenced within three months from the date of the lease, and in case of non-fulfilment of conditions or non-payment of rent the lease is liable to be cancelled and all improvements forfeited to the Crown.

*Leases of Inferior Lands.*—Vacant lands of an inferior character or in isolated positions, and which have not been held under any form of tenure or have been abandoned, may be offered for lease by notification in the *Government Gazette*. Within thirty days after this notice has been given the land may be leased by auction or by tender, subject to the conditions specified in the *Gazette*, the upset rental being fixed by the Minister on the report of the Local Land Board. A lease of any such land which has been put up at auction may upon application be obtained at the upset rental. The term of lease is twenty years or under; but the Governor has power, under the Crown Lands Act of 1895, to extend the time to twenty-eight years.

*Snow-land Leases.*—Vacant lands, or lands held under annual lease or occupation license, which are usually covered with snow during a part of each year and are unfit for continuous use or occupation, may, on the recommendation of the Land Board, be submitted by the Minister for lease by auction. The minimum area which can be thus leased is 1,280 acres, and the maximum area, 10,240 acres. The first



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year's rent, together with the survey fee, is due at the time of sale. The period of lease is seven years; but on application not later than twelve months before the expiration of that time, an extension of three years may be granted, subject to reappraisement of rental, notice of which is given twelve months prior to the expiration of the lease. No person can hold more than two areas under snow-land lease.

*Residential Leases on Gold and Mineral Fields.*—Any holder of a miner's right or mineral license is entitled to apply for a residential lease of vacant lands not exceeding 20 acres in extent, within any proclaimed gold or mineral field. Applications must be accompanied by a deposit of £1, the prescribed survey fee, and a provisional rent at the rate of 1s. per acre or part of an acre. The lease may be granted for any term not exceeding fifteen years, and is held subject to the following conditions:—The lessee must, during the whole currency of the lease, hold a miner's right or mineral license. He must make the leasehold his usual and only home, and residence must commence within three months from the date of notification of the lease. Within twelve months he must, if such improvements are not already existing, erect such buildings and fences as are required for the actual residence upon and the beneficial use of the land. Any portion of the land which in the opinion of the Minister is required for mining or public purposes, may be withdrawn from the lease. Any duly authorised person may enter on the land for the purpose of seeking work or winning gold or other mineral, and the residential lease confers on the holder no right to do this himself—he must procure the necessary authority before he may do so. Other conditions which may be imposed are specified in the notification. On the expiration or withdrawal of the lease the lessee has tenant-right in improvements.

## Cost of Administration.

The following statement shows the cost of the administration of the Lands Department during the period from 1890 to the 30th June, 1901:—

| Year. | Cost of Survey of Lands. | Expenditure for General, Miscellaneous, and Special Services. | Total Cost of Administration. |
|---|---|---|---|
| | £ | £ | £ |
| 1890 | 237,225 | 142,068 | 379,293 |
| 1891 | 238,377 | 146,460 | 384,837 |
| 1892 | 216,134 | 172,281 | 388,415 |
| 1893 | 184,728 | 157,918 | 342,646 |
| 1894 | 158,360 | 144,602 | 302,962 |
| *1895 | 76,438 | 74,964 | 151,402 |
| †1896 | 167,568 | 130,951 | 298,519 |
| †1897 | 152,524 | 123,004 | 275,528 |
| †1898 | 146,945 | 119,231 | 266,176 |
| †1899 | 152,903 | 118,422 | 271,325 |
| †1900 | 165,754 | 123,504 | 289,258 |
| †1901 | 168,258 | 107,603 | 275,861 |

* Six months ended June. † Year ended June.

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The figures just given might prove misleading without some reference to the actual revenue received. In the chapter on "Public Finance" will be found a statement of the revenue from the Crown lands of the province, and if from the amount there given be subtracted the receipts from mining occupation and the balance compared with the cost shown in the preceding table, the following results will be obtained :—

| Year. | Percentage of Total Revenue Expended— | | |
|---|---|---|---|
| | On Survey. | On General Expenses. | Total. |
| 1890 | 11·34 | 6·79 | 18·13 |
| 1891 | 11·29 | 6·93 | 18·22 |
| 1892 | 10·38 | 8·28 | 18·66 |
| 1893 | 8·98 | 7·67 | 16·65 |
| 1894 | 7·80 | 7·12 | 14·92 |
| *1895 | 7·26 | 7·12 | 14·38 |
| †1896 | 8·30 | 6·49 | 14·79 |
| †1897 | 7·81 | 6·30 | 14·11 |
| †1898 | 7·26 | 5·89 | 13·15 |
| †1899 | 7·64 | 5·91 | 13·55 |
| †1900 | 8·12 | 6·05 | 14·17 |
| †1901 | 8·38 | 5·36 | 13·74 |

* Six months ended June. † Year ended June.

The figures just given show a decided improvement. It must, however, be borne in mind that the expenditure on surveying is added in some instances to the cost of the land, and is therefore not altogether a fair charge against administration.

## PROGRESS OF ALIENATION.

The growth of land alienation under the legislation of 1861 and its subsequent amendments, and the operations of the settlers under the Acts of 1884, 1889, and 1895 in the matter of unconditional settlement, are summarised below :—

| Mode of Alienation. | Lots. | Area. |
|---|---|---|
| Sales by auction— | No. | acres. |
| Town | 37,446 | 17,671 |
| Suburban | 14,762 | 71,268 |
| Country | 64,352 | 9,407,283 |
| Total sales by auction | 116,560 | 9,496,222 |
| Selection after auction | 20,402 | 1,728,343 |
| Sales by virtue of improvements | 24,865 | 2,786,868 |
| ,, by virtue of pre-emptive rights | 2,114 | 560,825 |
| ,, of unnecessary roads | 1,049 | 9,407 |
| ,, of water reservations | 219 | 679 |
| ,, by special appraisements | 303 | 2,553 |
| ,, of reclaimed lands | 661 | 960 |
| Grand total of unconditional sales | 166,173 | 14,585,857 |

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As regards conditional sales, the following were applied for under the various Acts since the date of the Crown Lands Act of 1861 :—

| | Selections applied for. | |
|---|---|---|
| | No. | Acres. |
| Under the Crown Lands Act of 1861— | | |
| To May 24, 1880 | 136,389 | 14,982,120 |
| Under the Crown Lands Act of 1880— | | |
| 1880 (from May 25) | 4,927 | 694,951 |
| 1881 | 14,220 | 2,329,202 |
| 1882 | 14,606 | 2,392,218 |
| 1883 | 10,674 | 1,617,712 |
| 1884 | 10,657 | 1,453,937 |
| Total | 55,084 | 8,488,020 |
| Total to December 31, 1884 | 191,473 | 23,470,140 |
| Under the Crown Lands Acts of 1884, 1889, and 1895,— | | |
| 1885 | 5,377 | 1,165,352 |
| 1886 | 6,080 | 963,197 |
| 1887 | 4,769 | 793,004 |
| 1888 | 5,364 | 865,199 |
| 1889 | 6,205 | 903,160 |
| 1890 | 8,526 | 1,713,577 |
| 1891 | 6,153 | 1,303,094 |
| 1892 | 4,396 | 816,399 |
| 1893 | 3,393 | 533,805 |
| 1894 | 2,617 | 414,355 |
| 1895 | 1,751 | 253,431 |
| 1896 | 1,279 | 199,450 |
| 1897 | 1,306 | 241,789 |
| 1898 | 1,591 | 298,136 |
| 1899 | 1,770 | 303,113 |
| 1900 | 2,253 | 435,116 |
| Total | 62,830 | 11,202,179 |
| Grand total to December 31, 1900 | 254,303 | 34,672,319 |

The number of selections cancelled, forfeited, lapsed, declared void, and converted into homestead selections, together with the balance of

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such voidances, etc., and that of increased over decreased areas, amounted to 75,557 conditional purchases, covering 10,830,425 acres, thus reducing to 178,746 lots and 23,841,894 acres the number and area of selections which remained in existence at the close of the year 1900. Deeds have now issued upon 29,719 completed purchases, covering 3,711,635 acres, so that the number of purchases still standing good, but upon which the conditions have not been fulfilled, is 149,027, covering an area of 20,130,259 acres.

Under the Crown Lands Act of 1895, applications for 3,545 blocks as homestead selections were received to the end of 1900, the aggregate area applied for being 1,343,203 acres. Of the applications lodged, 3,882, amounting to 1,442,199 acres, were confirmed. In addition to the foregoing, there were 108 conversions of conditional purchases, of a total area of 16,314 acres, and 27 conversions of conditional leases, comprising 8,980 acres. The area held under homestead selection on the 31st December, 1900, inclusive of the conversion of conditional purchases and conditional leases, was 1,416,025 acres.

In addition to the alienation of land by conditional and unconditional sales, the following were granted under the Volunteer Land Regulations of 1867 :—

| Year. | Area of Volunteer Land Orders granted. | Year. | Area of Volunteer Land Orders granted. |
|---|---|---|---|
| | acres. | | acres. |
| 1871 | 6,049 | 1887 | 1,797 |
| 1872 | 7,317 | 1888 | 1,483 |
| 1873 | 2,880 | 1889 | 783 |
| 1874 | 7,756 | 1890 | 882 |
| 1875 | 14,498 | 1891 | 1,100 |
| 1876 | 18,758 | 1892 | 590 |
| 1877 | 14,079 | 1893 | 500 |
| 1878 | 13,022 | 1894 | Nil. |
| 1879 | 26,506 | 1895 | Nil. |
| 1880 | 18,886 | 1896 | 50 |
| 1881 | 13,878 | 1897 | 200 |
| 1882 | 5,649 | 1898 | 250 |
| 1883 | 4,358 | 1899 | 50 |
| 1884 | 4,500 | 1900 | 50 |
| 1885 | 1,936 | | |
| 1886 | 740 | Total | 168,495 |

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The following table shows the area of land granted for general and religious purposes from 1862 to 1900 :—

| Year. | Area of Grants. | Year. | Area of Grants. | Year. | Area of Grants. |
|---|---|---|---|---|---|
| | acres. | | acres. | | acres. |
| 1862 | 857 | 1876 | 5,557 | 1890 | 1,566 |
| 1863 | 808 | 1877 | 2,899 | 1891 | 916 |
| 1864 | 301 | 1878 | 1,811 | 1892 | 8,735 |
| 1865 | 2,855 | 1879 | 21,762 | 1893 | 5,833 |
| 1866 | 12,288 | 1880 | 20,637 | 1894 | 41,678 |
| 1867 | 13,935 | 1881 | 7,113 | 1895 | 7,590 |
| 1868 | 11,310 | 1882 | 1,969 | 1896 | 3,186 |
| 1869 | 3,672 | 1883 | 2,535 | 1897 | 3,646 |
| 1870 | 11,970 | 1884 | 6,626 | 1898 | 16,780 |
| 1871 | 4,319 | 1885 | 481 | 1899 | 1,499 |
| 1872 | 1,969 | 1886 | 11,100 | 1900 | 1,890 |
| 1873 | 2,535 | 1887 | 5,377 | | |
| 1874 | 6,626 | 1888 | 3,310 | Total | 260,516 |
| 1875 | 673 | 1889 | 1,902 | | |

The operations of the various Orders, Regulations, and Acts of Council and of Parliament for the disposal of the public lands, since the foundation of the state, have given the following results :—

| | Acres. |
|---|---|
| Area granted and sold by private tender and public auction at prices ranging from 5s. to 20s. per acre, prior to the year 1862 | 7,146,579 |
| Area unconditionally sold, 1862–1900 inclusive | 14,589,429 |
| Area conditionally sold, for which deeds have issued, 1862–1900 inclusive | 3,711,636 |
| Area granted under Volunteer Land Regulations of 1867 to 31st December, 1900 | 168,495 |
| Area granted for public purposes, less resumptions, 1862–1900 | 240,559 |
| Total area covered by deeds or dedication | 25,856,698 |
| Area in process of alienation under system of deferred payments standing good on 31st December, 1900 | 20,130,259 |
| Area in process of alienation under system of homestead selection | 1,390,731 |
| Area of conditional purchases and conditional leases converted into homestead selections | 25,294 |
| Total alienated or in process of alienation | 47,402,982 |

It has been found impracticable to separate the area alienated by grant from that sold by private tender, as the records of early years are incomplete upon this point.

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The following statement shows the amount paid for lands purchased from the state from the year 1821 to the end of June, 1901 :—

| Period. | Amount received. |
|---|---|
| | £ |
| 1821–1861 ..... | 3,785,002 |
| 1862–1871 ..... | 2,359,548 |
| 1872–1881 ..... ... | 17,015,358 |
| 1882–1891 ..... | 13,917,457 |
| 1892–1901* ..... | 11,995,452 |
| Total received... | 49,072,817 |
| Less refunds ..... | 1,470,831 |
| Net amount received ... £ | 47,601,986 |

* To 30th June.

This sum includes £23,852,551 paid on account of conditional purchases. The amount outstanding on conditional purchases at the end of 1900 was £10,305,902, making the total amount paid and owing on all lands sold £57,907,888.

The area leased to pastoral tenants and others at the end of 1900 comprised 126,085,148 acres (including leases to miners under the Mining Act) and was subdivided as follows :—

| | Acres. |
|---|---|
| Pastoral Leases ..... ..... | 44,141,622 |
| Occupation Licenses ..... | 40,267,923 |
| Conditional Leases..... | 13,578,035 |
| Homestead Leases..... | 10,924,905 |
| Annual Leases ..... ..... | 6,461,713 |
| Settlement Leases ..... | 3,114,799 |
| Improvement Leases..... | 5,053,762 |
| Other Leases ..... ..... | 2,384,263 |
| Leases under the Mining Act ..... | 158,126 |
| Total..... | 126,085,148 |

The total available area of the state is 195,882,150 acres, and deducting the area sold and otherwise alienated, 47,402,982 acres, and the area leased, 126,085,148 acres, making a total of 173,488,130 acres, there remained a balance of 22,394,020 acres, representing the area of country neither alienated nor leased, including roads, unoccupied reserves, and land unsuitable for settlement.

## Area Available for Settlement.

In 1895 attention was again directed to the question of land legislation, as it was rightly contended that the Lands Acts of 1884 and 1889 had failed to prevent the accumulation of enormous landed estates in the hands of a very limited number of proprietors, backed up by the great financial institutions of the country. Although it may be said in defence of the policy pursued by this class of landowners, that in many cases it was forced upon them by the defective nature of legislation, which failed to discriminate between the very different

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interests of the pastoralists and the agricultural settlers, it must nevertheless have been patent to everybody that the rate at which these immense alienations of the public estate were being carried on threatened in a very short period of time to place formidable obstacles in the path of healthy settlement. The Acts mentioned have now, however, been superseded by the Crown Lands Act of 1895, which came into operation on the 1st June of that year. As has already been shown, many radical changes in land legislation have been effected by this Act; but it must be borne in mind that immediate remedial action can only be taken in connection with that portion of the Crown lands which has not yet been alienated, or leased to Crown tenants for a definite period of years. Leases granted under certain conditions, such as those attached to conditional leases, which carry with them the right of purchase at any time during their currency, may be considered to be in effect a form of alienation, as but a comparatively small portion of these areas is ever likely to return to the public estate. Lands under homestead lease in the Western Division, scrub lands, snow-covered areas, and inferior lands leased for long periods of fixed tenure, as well as pastoral leases renewable for long terms, form another category of lands upon which past legislation lays a prescriptive claim. The area which can be beneficially affected by the Act of 1895 is, therefore, limited to the area which is unalienated, or for which contracts have not been entered into, further reduced by the excision of reserves for public purposes, for gold-fields and other forms of mining enterprise, and for railways and other purposes. At the close of 1900 there were 25,856,698 acres absolutely alienated, for which deeds had issued; 20,130,259 acres conditionally sold, the conditions of purchase not being complete; 1,390,731 acres alienated and in process of alienation under the system of homestead selection, subject to the payment of rent in perpetuity; 25,294 acres of conditional purchases and conditional leases converted into homestead selections; and 13,578,035 acres leased with the right to purchase; in all, 60,981,017 acres which have been placed entirely beyond the scope of present or future legislation.

The areas under long contracts of lease, in some cases with right of renewal, which no legislation can affect until the expiration of the fixed period of their tenure, are given below :—

| | Acres. |
|---|---|
| Homestead Leases in Western Division for 28 years | 10,924,905 |
| Scrub Leases for 21 years, with right of renewal for a further period of 7 years | 1,436,386 |
| Snow Leases for 7 years, with right of renewal for a further period of 3 years | 100,547 |
| Leases of inferior lands, etc., for 20 years, with right of renewal for a further period of 8 years | 295,970 |
| Pastoral Leases in Western Division for 28 years | 43,311,862 |
| Settlement Leases for 28 years | 3,114,799 |
| Improvement Leases for 28 years | 5,053,762 |
| Other Leases | 603,061 |
| Total | 64,841,292 |

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The entire area affected by contracts existing at the end of 1900 amounted therefore to 125,822,309 acres, and these figures show how greatly the extent of territory to which remedial legislation is applicable has diminished. Of the balance, amounting to 70,059,841 acres, a large portion comprises reserves of various kinds; and if allowance be made for mountainous and other sterile lands, it will probably be found that the area suitable for occupation which the state has to offer intending settlers is somewhere about 51,000,000 acres. A further reduction must be made in order to arrive at the area available for immediate occupation, as in the Central Division an area has been renewed for various short periods in accordance with the privilege granted under the Crown Lands Act of 1884. In the course of the year 1900 nearly the whole of the pastoral leases in the Central Division expired, and the land will shortly be made available for settlement. During the next four years leases for the following areas will expire as noted :—

| Year. | Acres. |
|---|---|
| 1901 | 189,760 |
| 1902 | 252,160 |
| 1903 | 344,483 |
| 1904 | 43,357 |
| Total | 829,760 |

Including the area which fell in during 1901 (189,760 acres), and making allowance for the fact that under the Act of 1895 half of these leaseholds may be withdrawn to meet the requirements of settlement as they arise, the total extent of country open to the immediate influence of legislation is limited, therefore, taking into consideration the area falling in during 1902, to but little more than 51,000,000 acres. From a careful computation the area estimated to be thus available would appear to be distributed in the following proportions within the three great divisions of New South Wales :—

| | Acres. |
|---|---|
| Eastern Division | 13,000,000 |
| Central ,, | 20,000,000 |
| Western ,, | 18,000,000 |

Under present conditions the Western Division is not suitable for agricultural settlement, and the area, therefore, left open to the operations of the small settler combining agriculture with pastoral pursuits does not exceed 33,000,000 acres, or about one-sixth of the territory of New South Wales.

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The progress of alienation and conditional settlement by purchase and lease at various periods from 1861 to 1884, and annually since the last-mentioned year, is shown in the following table :—

| At end of year. | Area Alienated for which deeds have issued. | Area Conditionally Purchased, standing good on 31st December. | Area Conditionally Leased on 31st December. | Area under Homestead Selection. |
|---|---|---|---|---|
| | acres. | acres. | acres. | acres. |
| 1861 | 7,146,579 | ..... | ..... | ..... |
| 1871 | 8,630,604 | 2,280,000 | ..... | ..... |
| 1881 | 22,406,746 | 12,886,879 | ..... | ..... |
| 1884 | 22,779,733 | 16,004,689 | ..... | ..... |
| 1885 | 22,872,366 | 16,464,586 | 1,900,800 | ..... |
| 1886 | 22,991,208 | 16,856,912 | 3,955,200 | ..... |
| 1887 | 23,106,700 | 17,202,286 | 4,802,560 | ..... |
| 1888 | 23,259,048 | 17,449,042 | 6,121,600 | ..... |
| 1889 | 23,442,013 | 17,907,431 | 6,928,804 | ..... |
| 1890 | 23,615,720 | 19,035,515 | 9,903,949 | ..... |
| 1891 | 23,775,410 | 19,793,321 | 11,234,131 | ..... |
| 1892 | 23,937,392 | 20,102,896 | 14,370,803 | ..... |
| 1893 | 24,138,576 | 20,201,790 | 12,707,423 | ..... |
| 1894 | 24,358,717 | 20,304,034 | 12,870,191 | ..... |
| 1895 | 24,566,945 | 20,253,489 | 12,953,203 | 57,331 |
| 1896 | 24,712,939 | 20,198,630 | 13,260,052 | 331,717 |
| 1897 | 24,853,074 | 20,224,892 | 13,150,749 | 645,281 |
| 1898 | 25,081,572 | 20,243,738 | 13,118,444 | 1,063,280 |
| 1899 | 25,374,603 | 20,212,508 | 13,354,733 | 1,269,466 |
| 1900 | 25,856,698 | 20,130,259 | 13,578,035 | 1,416,025 |

As already pointed out, the land held under conditional lease is virtually alienated, seeing that the holder has the right of converting his lease into a freehold at any time during its currency.

## Effects of Land Legislation.

The lands specially referred to in the following examination are those included in rural holdings over 1 acre in extent, from which the agricultural and pastoral production of the country is obtained, municipal areas being dealt with separately as regards extent and revenue in another part of this volume. In the preceding pages an account has been given of the old methods of land alienation, and of the various Acts of Parliament which now regulate the division of the public estate among the settlers: the object of the examination which follows is to show what have been the effects of past and present legislation upon the settlement of the territory.

When the agitation which culminated in the framing of the Crown Lands Act of 1861 was in progress, it was contended that the Orders-in-Council then in force favoured the occupation of the country lands by the wealthier classes, and the principles of free selection before survey and of deferred payments were introduced in the new legislation with the object of facilitating the settlement of an agricultural population side by side with the great pastoral tenants of the Crown.

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The statistical records for the year 1861 show that at the close of that year, and just before the new legislation had come into force, there were already 21,175 holders of rural lands, of whom 17,654 were located in the old settled districts, comprising twenty counties, grouped around three principal centres—the metropolis and the county of Cumberland, the Hunter River Valley, and that portion of the central table-land of which Goulburn, Bathurst, and Mudgee were the first towns; while the remaining 3,521 settlers were scattered over the pastoral districts. The figures showing the area held by these settlers do not discriminate between the land alienated and that occupied under lease from the Crown; but they show that in the old settled districts there were some 254,347 acres under cultivation—or an average of 14 acres per holding—and 8,522,420 acres used for stock; whilst in the pastoral districts 43,228 acres were cultivated, and 54,716,463 acres were occupied for grazing; so that at that time 63,536,458 acres, representing about one-third of the territory of the state, were already in the occupation of the settlers.

In addition to the clauses inserted in the Act of 1861 in the interests of colonists of small means, certain provisions were retained which secured the interests accrued to the pastoralists under former legislation, of which they availed themselves to the utmost. By means of auction sales of country lands at the upset price of 20s. per acre, of unconditional selections of lots not bid for at auction, of purchases made in virtue of improvements, and of the right of pre-emption to certain lands under the old Acts of Council, the accumulation of immense estates was greatly facilitated. The sales of lands subject to conditions of residence and improvements, though ostensibly made to foster the settlement of a numerous class of small farmers, were also availed of in the interests of station owners, to whom the purchases were transferred in great numbers immediately upon completion of the conditions of residence and improvements required under the Act. The evils resulting from the antagonistic interests of these two classes of settlers were partly checked by the amended law of 1884, which put a stop to the wholesale alienation of land by auction, unconditional selection after auction, and sales in virtue of pre-emptive rights. The clause relating to improvement purchases was also modified, and made applicable only to small areas in gold-fields which might be purchased by resident miners in virtue of certain improvements; and the area offered at auction sales was restricted to a maximum of 200,000 acres yearly; but conditional settlement was favoured by permitting the maximum area allowed to be taken up by free selectors to be considerably increased, the conditions of residence being increased to five years instead of three, and the fulfilment of the conditions of fencing and improvements rendered more stringent.

These regulations, however, did not, in any sense, fulfil the expectation of the legislators in regard to settling a yeomanry upon the soil, as the figures relating to transfers of conditional purchases published further on will show that, when other means of increasing the area of individual

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estates failed, the traffic in transfers of conditionally-purchased lands, with increased areas, supplied the deficiency. The radical change introduced by the Land Act of 1895, necessitating continuous residence for a period of ten years in respect of original conditional purchases and a further term of not less than five years in connection with additional purchases, has had the effect of considerably reducing the number of applications lodged. The following table shows the transactions under each class of conditional purchase since the Crown Lands Acts of 1884, 1889, and 1895 have been in operation, and indicates very clearly that the speculative element is being largely eliminated :—

| Year. | Original Conditional Purchases. | | Additional Conditional Purchases. | | Non-residential Conditional Purchases. | | Total. | |
|---|---|---|---|---|---|---|---|---|
| | No. | Area. | No. | Area. | No. | Area. | No. | Area. |
| | | acres. | | acres. | | acres. | | acres. |
| 1885 | 2436 | 773,461 | 2639 | 344,084 | 302 | 47,807 | 5377 | 1,165,352 |
| 1886 | 2738 | 589,230 | 2987 | 330,280 | 355 | 43,687 | 6080 | 963,197 |
| 1887 | 2369 | 538,080 | 2196 | 232,597 | 204 | 22,327 | 4789 | 793,004 |
| 1888 | 2705 | 587,869 | 2356 | 249,503 | 303 | 27,827 | 5364 | 865,199 |
| 1889 | 3043 | 572,802 | 2856 | 300,532 | 306 | 29,826 | 6205 | 903,160 |
| 1890 | 3797 | 1,004,421 | 4477 | 678,764 | 252 | 30,392 | 8526 | 1,713,577 |
| 1891 | 3068 | 778,348 | 2920 | 506,034 | 165 | 18,712 | 6153 | 1,303,094 |
| 1892 | 2134 | 425,456 | 2145 | 380,059 | 117 | 10,884 | 4396 | 816,399 |
| 1893 | 1932 | 308,696 | 1398 | 219,835 | 63 | 5,274 | 3393 | 533,805 |
| 1894 | 1462 | 201,420 | 1099 | 208,663 | 56 | 4,272 | 2617 | 414,355 |
| 1895 | 959 | 141,858 | 773 | 110,320 | 19 | 1,253 | 1751 | 253,431 |
| 1896 | 765 | 104,677 | 492 | 93,025 | 22 | 1,748 | 1279 | 199,450 |
| 1897 | 769 | 101,082 | 513 | 138,810 | 24 | 1,897 | 1306 | 241,789 |
| 1898 | 844 | 103,951 | 725 | 192,183 | 22 | 2,003 | 1591 | 298,137 |
| 1899 | 941 | 120,796 | 788 | 177,914 | 41 | 4,403 | 1770 | 303,113 |
| 1900 | 1100 | 144,241 | 1122 | 288,177 | 31 | 2,698 | 2253 | 435,116 |

The experience of the past six years goes to show that the new features introduced by the Land Act of 1895 are meeting with considerable favour at the hands of those desirous of acquiring a holding for themselves, notwithstanding the fact that the residence involved is continuous and for a lengthy period. The following table indicates the operations in respect of Homestead Selections and Settlement Leases for the period since their inception :—

| Year. | Homestead Selections. | | Settlement Leases. | |
|---|---|---|---|---|
| | No. | Area. | No. | Area. |
| | | acres. | | acres. |
| 1895 | 202 | 62,576 | 75 | 206,913 |
| 1896 | 1,187 | 362,874 | 389 | 1,219,302 |
| 1897 | 896 | 367,291 | 326 | 902,390 |
| 1898 | 1,081 | 461,647 | 531 | 1,447,080 |
| 1899 | 833 | 329,128 | 413 | 1,138,726 |
| 1900 | 609 | 260,569 | 189 | 490,846 |

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The principal element which contributed to the aggregation of great landed estates was that of auction sales of country lands, which were measured in vast areas upon the application of the run-holders, who bought them up generally at the upset price—at first a minimum of £1 per acre, raised in 1878 to £1 5s. per acre.

The following analysis of the different methods by which lands have been alienated will account for the present state of rural settlement. Particulars of the auction sales of country lands from the year 1862 to 1900 inclusive are given hereunder:—

| Year. | Lots. | Total Area. | Amount realised. | Average Price per Acre. |
|---|---|---|---|---|
| | No. | acres. | £ | £ s. d. |
| 1862 | 532 | 29,729 | 33,208 | 1 2 4 |
| 1863 | 765 | 15,392 | 18,163 | 1 3 7 |
| 1864 | 542 | 31,393 | 35,549 | 1 2 0 |
| 1865 | 1,289 | 63,303 | 71,532 | 1 2 7 |
| 1866 | 801 | 65,799 | 68,197 | 1 0 9 |
| 1867 | 806 | 70,701 | 75,432 | 1 1 4 |
| 1868 | 729 | 50,636 | 52,169 | 1 0 7 |
| 1869 | 1,236 | 93,428 | 96,364 | 1 0 8 |
| 1870 | 797 | 51,722 | 54,010 | 1 0 11 |
| 1871 | 1,034 | 49,303 | 50,270 | 1 0 5 |
| 1872 | 697 | 61,073 | 61,505 | 1 0 2 |
| 1873 | 2,274 | 274,581 | 278,110 | 1 0 3 |
| 1874 | 4,064 | 580,753 | 596,785 | 1 0 6 |
| 1875 | 6,658 | 978,377 | 992,786 | 1 0 3 |
| 1876 | 8,040 | 1,685,650 | 1,707,323 | 1 0 3 |
| 1877 | 8,380 | 1,829,613 | 1,838,457 | 1 0 1 |
| 1878 | 4,564 | 861,049 | 1,071,486 | 1 4 10 |
| 1879 | 2,012 | 353,372 | 447,557 | 1 5 4 |
| 1880 | 2,082 | 346,679 | 419,523 | 1 4 2 |
| 1881 | 2,691 | 523,657 | 616,309 | 1 3 6 |
| 1882 | 2,474 | 503,547 | 630,494 | 1 5 0 |
| 1883 | 226 | 25,826 | 41,268 | 1 11 2 |
| 1884 | 397 | 38,215 | 72,412 | 1 17 11 |
| 1885 | 51 | 1,654 | 5,513 | 3 5 10 |
| 1886 | 793 | 58,088 | 100,627 | 1 14 8 |
| 1887 | 1,124 | 103,748 | 158,747 | 1 10 7 |
| 1888 | 1,781 | 100,128 | 230,294 | 2 6 2 |
| 1889 | 482 | 18,430 | 42,389 | 2 6 3 |
| 1890 | 686 | 66,160 | 113,795 | 1 14 5 |
| 1891 | 703 | 44,348 | 89,139 | 2 1 8 |
| 1892 | 896 | 80,062 | 148,115 | 1 17 0 |
| 1893 | 1,019 | 91,964 | 175,115 | 1 18 1 |
| 1894 | 699 | 42,973 | 86,125 | 2 0 1 |
| 1895 | 485 | 19,990 | 57,008 | 2 2 3 |
| 1896 | 325 | 11,214 | 25,751 | 2 5 11 |
| 1897 | 423 | 21,821 | 37,717 | 1 14 6 |
| 1898 | 651 | 50,546 | 85,540 | 1 13 10 |
| 1899 | 399 | 37,855 | 57,367 | 1 10 3 |
| 1900 | 745 | 74,504 | 109,692 | 1 9 5 |
| Total ..... | 64,352 | 9,407,273 | 10,851,843 | 1 3 1 |

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These figures show that the struggle between selector and squatter did not begin in earnest until about the year 1873, when the effects of the legislation of 1861 were felt in an acute form; but during the ten years that followed, this process of defence was applied in a wholesale manner by the pastoral tenants to save their possessions from encroachment through the operations of the selectors. The system was modified by the legislation of 1884, the object of auction sales of country lands now being to obtain revenue by the sale of select parcels of land at a higher average price and in much smaller average areas. Since the year mentioned, this system of alienation has ceased to be of use in consolidating large pastoral estates.

Among other means offered for the unconditional purchase of Crown lands, that of indiscriminate selection at the upset price of lots not bid for at auction also disappeared with the passing of the Act of 1884. The following table shows the results of this system of purchase during the period 1862 to 1883, when it was in operation:—

| Year. | Lots. | Total Area selected. | Year. | Lots. | Total Area selected. |
|---|---|---|---|---|---|
| | No. | acres. | | No. | acres. |
| 1862 | 477 | 22,347 | 1874 | 1,112 | 98,850 |
| 1863 | 362 | 17,384 | 1875 | 1,343 | 101,718 |
| 1864 | 248 | 12,388 | 1876 | 1,126 | 95,681 |
| 1865 | 251 | 12,582 | 1877 | 1,364 | 158,844 |
| 1866 | 332 | 16,413 | 1878 | 893 | 122,812 |
| 1867 | 270 | 15,803 | 1879 | ..... | ..... |
| 1868 | 283 | 18,589 | 1880 | 182 | 39,408 |
| 1869 | 545 | 39,085 | 1881 | 1,605 | 328,203 |
| 1870 | 367 | 23,375 | 1882 | 2,240 | 353,093 |
| 1871 | 340 | 23,700 | 1883 | 209 | 31,381 |
| 1872 | 929 | 83,733 | | | |
| 1873 | 1,272 | 101,587 | Total..... | 15,750 | 1,716,976 |

From a comparison of the above figures with those shown in the preceding table, it will be seen that during the years 1881 and 1882 this form of unconditional purchase was largely availed of to supplement the direct purchases at auction.

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The lands claimed in virtue of a pre-emptive right, a form of alienation which was also abolished by the Crown Lands Act of 1884, added the following quota to the areas bought in the interests of the pastoralists :—

| Year. | Lots. | Total Area sold. | Year. | Lots. | Total Area sold. |
|---|---|---|---|---|---|
| | No. | acres. | | No. | acres. |
| 1862 | 117 | 30,619 | 1874 | ..... | ..... |
| 1863 | 217 | 58,032 | 1875 | ..... | ..... |
| 1864 | 47 | 13,128 | 1876 | 780 | 189,664 |
| 1865 | 75 | 23,459 | 1877 | 367 | 81,193 |
| 1866 | 76 | 25,616 | 1878 | 15 | 4,063 |
| 1867 | 78 | 30,039 | 1879 | 25 | 6,033 |
| 1868 | 139 | 52,260 | 1880 | 30 | 6,912 |
| 1869 | 18 | 7,617 | 1881 | 35 | 7,461 |
| 1870 | 9 | 3,718 | 1882 | 29 | 5,183 |
| 1871 | 21 | 8,623 | 1883 | 23 | 2,338 |
| 1872 | 9 | 3,379 | | | |
| 1873 | 4 | 1,488 | Total..... | 2,114 | 560,825 |

An examination of the figures in the tables just given shows that during the ten years from 1873 to 1882 the area alienated principally with the object of consolidating pastoral properties, and of securing them against the operations of conditional purchasers, amounted to 11,189,082 acres, made up as follows :—

| Year. | By Auction Sales (Country Lots.) | Unconditionally sold by Selection. | Improved Lots sold to Owners of Improvements. | Sold by Pre-emption. | Total. |
|---|---|---|---|---|---|
| | acres. | acres. | acres. | acres. | acres. |
| 1873 | 274,581 | 101,587 | 10,587 | 1,488 | 388,243 |
| 1874 | 580,753 | 98,850 | 20,546 | ..... | 700,149 |
| 1875 | 978,377 | 101,718 | 49,852 | ..... | 1,129,947 |
| 1876 | 1,685,650 | 95,681 | 86,099 | 189,664 | 2,057,094 |
| 1877 | 1,829,613 | 158,844 | 159,848 | 81,193 | 2,229,498 |
| 1878 | 861,049 | 122,812 | 224,841 | 4,063 | 1,212,765 |
| 1879 | 353,372 | ..... | 121,062 | 6,033 | 480,467 |
| 1880 | 346,679 | 39,408 | 237,646 | 6,912 | 630,645 |
| 1881 | 523,657 | 328,203 | 474,099 | 7,461 | 1,333,420 |
| 1882 | 503,547 | 353,093 | 165,031 | 5,183 | 1,026,854 |
| Total... | 7,937,278 | 1,400,196 | 1,549,611 | 301,997 | 11,189,082 |

The consolidation of pastoral estates did not suffer a serious check when the clauses of the Act of 1861, above cited, ceased to operate, as the transfer of conditional purchases supplied fresh means by the gradual absorption of a very large number of selections, principally in the Central and Western Divisions.

A comparison of the areas dealt with in the following table shows how fast the original conditional purchasers of Crown lands are dispossessing

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themselves of their holdings, whilst the area selected does not exhibit a tendency to increase at anything like the same rate. An examination of the table reveals the fact that since 1882 there have been 37,576,898 acres of conditional purchases transferred, as against 16,690,284 acres applied for—a difference of 20,886,614 acres, which have to a very large extent gone to increase the large estates, distinctly to the detriment of healthy settlement.

| Year. | Selections. | | Transfers. | |
|---|---|---|---|---|
| | Number. | Acreage. | Number. | Acreage. |
| 1882 | 14,607 | 2,392,220 | 8,665 | 2,134,319 |
| 1883 | 10,725 | 1,621,948 | 6,213 | 1,508,583 |
| 1884 | 10,657 | 1,453,937 | 6,017 | 1,525,456 |
| 1885 | 5,377 | 1,165,352 | 9,079 | 2,286,730 |
| 1886 | 6,080 | 963,197 | 7,154 | 1,861,877 |
| 1887 | 4,769 | 793,004 | 7,440 | 2,159,429 |
| 1888 | 5,364 | 865,199 | 10,469 | 3,096,051 |
| 1889 | 6,205 | 903,160 | 14,395 | 2,327,562 |
| 1890 | 8,526 | 1,713,577 | 13,392 | 1,863,508 |
| 1891 | 6,153 | 1,303,094 | 16,727 | 2,333,808 |
| 1892 | 4,396 | 816,399 | 14,017 | 2,060,130 |
| 1893 | 3,393 | 533,805 | 12,581 | 1,825,097 |
| 1894 | 2,617 | 414,355 | 11,235 | 1,617,263 |
| 1895 | 1,751 | 253,431 | 11,517 | 1,785,011 |
| 1896 | 1,279 | 199,450 | 11,264 | 1,777,783 |
| 1897 | 1,306 | 241,789 | 11,896 | 1,875,059 |
| 1898 | 1,591 | 298,138 | 11,457 | 1,972,209 |
| 1899 | 1,770 | 303,113 | 11,062 | 1,686,002 |
| 1900 | 2,253 | 455,116 | 12,874 | 1,881,021 |
| Total..... | 98,819 | 16,690,284 | 207,454 | 37,576,898 |

It must be remembered, however, that a proportion of these transfers was made by way of mortgage, and therefore it is not possible to ascertain the area absolutely transferred by the original selectors. But if to the area parted with by its owners since 1882 be added the extent of land transferred during the previous twenty years, the fact that 22,392,051 acres out of the total area alienated are now contained in 703 holdings, giving to each one an average domain of 31,852 acres, is easily accounted for. The number of holdings, however, does not represent the number of owners interested, as in not a few cases these large estates are held in partnership by three or four persons, or by companies and financial corporations.

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# INTERNAL COMMUNICATION.

## Roads and Bridges.

FOR many years settlement in New South Wales was restricted to the narrow belt of land shut in between the Blue Mountains and the sea. Several main roads were formed through this country within a few years after the foundation of the colony. These roads connected the infant towns of Parramatta, Liverpool, Windsor, and Penrith with the metropolis, and were constructed entirely by bond labour. The abrupt wall of sandstone rising on the farther side of the Nepean barred all access to the interior of the country. As early as the year 1796 George Bass made an attempt to cross the mountain range, but returned after an unsuccessful journey, reporting that it was impossible to find a passage even for a person on foot. In 1813 a protracted season of drought, attended by considerable losses amongst the stock, brought home very clearly to the settlers the conviction that the future of the state entirely depended upon the extension of grazing land beyond the narrow limits within which they were then hemmed. In the month of May of that year Mr. Gregory Blaxland, Mr. W. C. Wentworth, and Lieutenant Lawson attempted to find a passage across the mountains. After meeting with difficulties which seem astonishing enough to the present generation, which has seen a railway carried over the same track by which Bathurst may be reached in a few hours, these gentlemen succeeded in opening a way—sometimes by creeping through dense forests, at others by scaling tremendous precipices—to the vast plains lying west of the Great Cordillera of Australia. They returned on the 6th June, and shortly afterwards Governor Macquarie sent a party of surveyors, under Mr. George W. Evans, Deputy Surveyor-General, to report on the practicability of making a road. The report was favourable, and the construction of the great western highway was at once commenced, the work being performed by gangs of bond labourers. The track thus made formed a continuation of the Great Western Road from Penrith, and it was completed as far as Bathurst by the 21st January, 1815.

The discovery of the Bathurst Plains and the completion of the mountain road gave so great an impetus to settlement that it was found impossible to keep pace in the matter of roads with the demands of the



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settlers. The Government, therefore, contented itself with maintaining the roads already constructed, and extending them in the direction of the principal centres of settlement. For many years these main roads were the only ones which received attention. This would perhaps have been sufficient had the progress of settlement subsequent to 1850 been similar to that made during previous years. Such, however, was not the case. The gold discovery entirely altered the circumstances of the state, and during the period of excitement and change which followed that remarkable event so many new roads were opened, and traffic increased so largely, that the general condition of the public highways was by no means good. The Roads Department was formed as far back as 1857, and although good service was done by the road pioneers before that date, the modern system of roadmaking may be said to have begun with the creation of the department. It was not, however, until 1864 that the whole of the roads, both main and subordinate, received attention at the hands of the state.

The principal main roads of the state are :—

Northern Road—length, 405 miles, from Morpeth to Maryland, New England.

Western Road—length, 338 miles, from Sydney to Warren through Bathurst, Orange, and many other important townships; thence prolonged to the Darling, at Bourke, by a line 175 miles in length.

Southern Road—length, 385 miles, from Sydney to Albury. This road was, before the construction of the railway, the great highway between Sydney and Melbourne.

South Coast Road—length, 250 miles. This road, after leaving Campbelltown, ascends the coast range, along the top of which it runs as far as Coal Cliff. It then traverses the Illawarra district, parallel to the coast, and passes through the rich lands watered by the Shoalhaven, Clyde, and Moruya, as far as Bega, whence it extends, as a minor road, to the southern limit of the state.

None of these roads has now the importance which it formerly possessed. The railways of the state for the most part follow the direction of the main roads, and attract to themselves nearly all the through traffic. The tendency now is to make the roads act as feeders to the railway, by converging the traffic from outlying districts towards convenient stations along the line.

The expenditure by the Government upon the different roads is made in accordance with the recommendation of the Road Superintendent for the district, which is based upon the requirements for each road. Formerly the roads of the state were divided into seven classes according to their importance, and the yearly expenditure ranged from £50 per mile on roads in the first class to £5 per mile on those in the seventh class.

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The network of roads spreading over the face of the state is divided, for purposes of maintenance, into road districts and road trusts. The whole state is divided into sixty-two road districts, each of which is placed in the charge of a Superintendent, who is directly responsible to the Commissioner for Roads. The Road Superintendents have the greater part of the road communication of the state outside the municipal boundaries, as well as a portion of the roads within municipalities, under their care. The road trusts have the supervision of the expenditure of certain grants for the maintenance of roads in districts which are chiefly of minor importance; there are, however, certain important roads in the vicinity of the metropolis governed by trusts. The length of roads in charge of Road Superintendents on the 30th June, 1901, was 44,139 miles, while 382 miles were under the care of road trusts. There were also within municipal areas 1,209 miles, which were subsidised by the Department, making a total of 45,730 miles under Government control. Of the 44,139 miles in charge of Road Superintendents, 8,506 miles were metalled, ballasted, gravelled, or corduroyed; 6,062 miles were formed and drained, and all necessary culverts constructed, but were not metalled; 5,240 miles were cleared and drained; 10,556 miles were cleared only; and 13,775 miles were roads which wind their way through the forests of the interior, chiefly along the lines marked out by the cart-wheels of the foremost settlers, forming, in dry weather, adequate means of communication, although in seasons of rain they are frequently impassable. Besides the roads mentioned, there were about 1,500 miles of mountain passes. Many of these presented the most formidable difficulties, and their construction reflects great credit upon the engineering skill of the Department which has for so many years designed and supervised the construction and maintenance of the roads and bridges of the state.

Of the earliest bridges erected in the state many were built of stone, and still exist. Those erected in the period following the extension of settlement to the interior were chiefly of timber, and have since been replaced, after a life of about twenty-five years. Nearly all the large bridges of recent date are of iron or steel, and some of them have been erected under engineering conditions almost unique, owing to the peculiarity of the river-flow in certain parts of the country. On the 30th June, 1901, there were, altogether, 2,979 bridges of 20 feet span and over, covering a length of 284,732 feet; 38,760 culverts under 20 feet span, 549,697 feet in length; and 20,785 causeways, of a total length of 484,297 feet. Where local circumstances have not favoured the erection of a bridge, or the traffic has not warranted its construction, a punt or ferry has been introduced. In June, 1901, there were 12 iron punts, 99 timber punts, and 2 horse-boats. Of the punts and boats, 8 were worked by steam-gearing and wire-rope, 87 by hand-gearing and wire-rope, and 16 by wire-rope without gearing; the total width between mooring posts amounting to 68,294 feet. Also, the Department had charge of two steam-launches, 4 iron and 71 timber

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flood-boats, 128 other boats, and 9 punt-slips for the execution of repairs. On an average, 3,275 men were employed during each month of the working year, in addition to 6,264 contractors and their employees, making a total of 9,539 men.

The use of roads as the main arteries along which traffic from the metropolis to the interior flows has been superseded by the railways; nevertheless, they are still the sole means of communication throughout a large part of the interior, besides serving as most valuable feeders to the railway system of the country. No revenue is directly derived from roads, but their indirect advantages to the country have been very great, and after the lands and the railways they form the largest item of national property. It is estimated that £20,832,000 has been expended on roads and bridges since 1857, and their present value to the State, allowing for depreciation, cannot be less than £15,500,000. Their indirect value cannot be calculated; but as an instance of the change brought about by the system of road construction, it may be mentioned that after the organisation of the Roads Department on its present basis the cost of carriage of goods by road and the time of transit were reduced by more than one-half, as will appear from the following statement:—

| Main Roads. | Distance. | Carriage by Road, 1857. | | Carriage by Road, 1864. | |
|---|---|---|---|---|---|
| | | Time in transit. | Cost per ton. | Time in transit. | Cost per ton. |
| | miles. | days. | £ s. d. | days. | £ s. d. |
| Sydney to Goulburn ..... | 134 | 17½ | 12 5 0 | 7½ | 3 15 0 |
| „ Bathurst..... | 145 | 23½ | 15 10 0 | 11 | 6 10 0 |
| Newcastle to Murrurundi..... | 119 | 21 | 9 0 0 | 8 | 6 10 0 |

The progress between 1857 and 1864 was very great. Part of the advance may without hesitation be ascribed to improvement of the roads; but the decline in the demand for teams consequent on the cessation of the gold rush was also a cause of the fall in the cost of transit. Since 1864 the price of carriage by road has not declined, most of the traffic being through districts remote from the centres of population, where the requirements of the teamsters are costly to supply. The roads followed by the teams are those leading to the railway lines, and the loading consists for the most part of station supplies, wool, and other produce. The rates vary according to the distance and the nature of the country traversed, but the following scale may be taken as typical of the

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ordinary charges for outward loading—that is, from the interior to the railways. Inward goods average about 1d. per mile less than those outward :—

| | s. | d. | |
|---|---|---|---|
| Up to 40 miles ..... | 1 | 3 | per ton per mile. |
| 100 ,, ..... | 1 | 0 | ,, |
| ,, 200 ,, ..... | 0 | 11 | ,, |
| ,, 300 ,, ..... | 0 | 10 | ,, |

A slight consideration of these figures will be sufficient to show how greatly the business of the country has been facilitated by the construction of railways. If 100 miles be assumed as the average distance which goods are carried, the prevailing rate by teams would be 12d. per ton per mile. On the railways, as far back as 1872, the carriage was only 3·6d., and to-day it averages a little over 1·3d. It would be overstating the case against road carriage, however, if the latter figure were compared with the average price charged by teams; but a comparison in every respect perfectly fair can be made between the cost of carrying general merchandise by rail—only 3·24d. per ton per mile—and the cost of sending goods by teams, which, as stated above, is 12d. per ton per mile. The saving by rail carriage is, therefore, 73 per cent.; and if it had been possible for the whole of the railway traffic for the year 1900 to be carried by teams, the cost would have been £7,051,991 instead of the sum of £1,904,371 (exclusive of terminal charges) actually charged by the Railway Commissioners. In the portion of this chapter devoted to goods traffic on the railways, particulars are given of the gradual cheapening of this form of carriage during the past twenty-nine years.

During the last few years the old-time spectacle might frequently be seen of huge loads of goods being carried along the main roads within sight of the railway lines. The price paid to carriers was not usually disclosed, but from the nature of things it was probably less than would have been paid to the Railway Commissioners for the same service. The competition of teams with the railway for the carriage of a certain class of goods was made possible by the extreme cheapness of fodder and the low price of horses, and to the circumstance that a number of carriers could not otherwise find employment; moreover, it only lasted for a few months in each year, and did not affect the railway earnings to any appreciable extent.

The total expenditure on account of roads of all classes, and of bridges and culverts, during the year ended 30th June, 1901, was £860,007, of which contracts claimed £421,061; wages, £275,098; supervision, £43,539; materials, miscellaneous and incidental (including road subsidies to Municipalities), £120,309. In this expenditure is included the cost of administering the Department, services for other Departments, and payments on account of punt approaches and similar works incidental to the road traffic of the country The expenditure in

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the construction and maintenance of roads and bridges since 1857, with details since the year 1881, is given below. Until recent years, the expenditure on these works increased at a much faster rate than the population :—

| Year. | Expenditure by Roads Department. | Expenditure by Trustees. | Total. |
|---|---|---|---|
| | £ | £ | £ |
| 1857 to 1880 | 5,430,923 | 782,907 | 6,213,830 |
| 1881 | 484,567 | 23,186 | 507,753 |
| 1882 | 577,212 | 24,722 | 601,934 |
| 1883 | 613,847 | 24,938 | 638,785 |
| 1884 | 750,584 | 27,722 | 778,306 |
| 1885 | 800,962 | 24,404 | 825,366 |
| 1886 | 628,379 | 28,414 | 656,793 |
| 1887 | 721,994 | 45,433 | 767,427 |
| 1888 | 663,929 | 31,503 | 695,432 |
| 1889 | 632,398 | 31,361 | 663,759 |
| 1890 | 770,809 | 34,500 | 805,309 |
| 1891 | 965,688 | 31,990 | 997,678 |
| 1892 | 859,028 | 30,605 | 889,633 |
| 1893 | 676,233 | 30,330 | 706,563 |
| *1894–5 | 800,620 | 30,034 | 830,654 |
| †1896 | 757,115 | 19,285 | 776,400 |
| †1897 | 666,300 | 9,910 | 676,210 |
| †1898 | 605,497 | 10,601 | 616,098 |
| †1899 | 636,859 | 8,710 | 645,569 |
| †1900 | 671,134 | 7,472 | 678,606 |
| †1901 | 850,963 | 9,044 | 860,007 |
| Total ..... | 19,565,041 | 1,267,071 | 20,832,112 |

* 1894 and first half of 1895. † Year ended June.

Besides the roads maintained by the Government, there were, in the month of February, 1900, 7,430 miles of roads and streets belonging to the municipalities of the state. Of these roads, 2,403 miles were metalled, gravelled or ballasted, and 1,323 formed ; while 1,750 miles were cleared, and 1,954 miles not cleared. Their value without the land, but inclusive of footpaths, kerbing, and guttering, is estimated at £5,574,900. As already pointed out, the length of roads within municipalities subsidised by the Government was 1,209 miles.

## Railways.

The first attempt to introduce into New South Wales the blessing of railway communication, which has so revolutionised the commerce of the older parts of the world, was made in 1846. On the 26th August of that year a meeting was held in Sydney at which it was decided to

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survey a line to connect the metropolis with the city of Goulburn. Two years afterwards, on the 11th September, 1848, the Sydney Railroad and Tramway Company was formed, with a capital of £100,000, having for its object the construction of railways to Parramatta and Liverpool, with possible extensions, in course of time, to Bathurst and Goulburn. No time was lost in breaking ground, and on the 3rd July, 1850, the Hon. Mrs. Keith Stewart, daughter of the Governor, Sir Charles Fitzroy, turned the first sod of the first railway begun in Australia. The affairs of the company, however, did not prosper, and the Government of the state took over the works. In the interval another company had been promoted in 1853, with the object of constructing a railway from the city of Newcastle to Maitland; but it met with no greater success than the Sydney company, and shared the same fate. On the Government taking over the works, construction was carried on with vigour; and on the 26th September, 1855, the line from Sydney to Parramatta was declared open for public traffic, and the extension to Goulburn was opened on the 27th May, 1869.

The progress of railway construction during the twenty years which followed the opening of the first line was very slow, for in 1875 the length of the lines in operation had only reached 435 miles, the extension being at the rate of 21¾ miles per year. Not a single mile of railway was opened in 1865 and 1866; but in 1867 construction received a fresh impetus, and continued to advance until 1872, when it stood still for another period of two years, during which time only 5 miles of line were thrown open to traffic. In 1875, however, 33 miles were opened, and from 1876 to 1889 still greater activity prevailed, 1,748 miles being constructed during this period, or a yearly average of 125 miles; but this rate of increase received a check, only 14 miles being opened in the course of the next three years. There were, however, 154 miles opened during the railway year ending June, 1893; 150 miles in the succeeding year; and 30 miles in the year ended June, 1895. In the following working year no lines were opened; but during the year ended June, 1897, 108 miles were added, and in the course of the next twelve months, 52 miles. The only line opened during the year ended 30th June, 1899, was that from Berrigan to Finley, a distance of 13 miles 73 chains. During the year ended 30th June, 1900, the line between Tamworth and Manilla, 29 miles 42 chains, and the first section of the extension from Moree to Inverell, 35 miles, both of the "pioneer" class, were opened for traffic. From the 7th September, 1899, the private line from Broken Hill to Tarrawingee, 40 miles 7 chains in length, also became the property of the Government. Under an agreement concluded between the Commissioners for Railways and the Silverton Tramway Company it was settled that the company should work the line for five years. The company take the receipts, and pay the cost of working and maintenance, together with 3 per cent. per annum on the capital outlay. The "pioneer" line from Koorawatha to Grenfell, a distance of 32 miles 8 chains, was opened

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on the 7th May, 1901, and that from The Rock to Green's Gunyah, 24¼ miles, two months later. Further extensions of the "pioneer" class are now under construction from Byrock to Brewarrina, 58 miles; Gravesend to Inverell, 61½ miles; Narrabri to Walgett, with branch line to Collarendabri, 155¾ miles; Lismore to Casino, 18 miles; Culcairn to Germanton, 16¾ miles; Dubbo to Coonamble, 95½ miles; Grafton to Casino, 64¼ miles; Gundagai to Tumut, 31½ miles; Cobar to The Peak, 3¾ miles; and Goulburn to Crookwell, 35½ miles. The total length of line under construction towards the close of 1901 was, therefore, rather more than 540 miles.

The progress in construction of the state railways of New South Wales may be traced in the statement given below; but included in the mileage are the Broken Hill-Tarrawingee line, and also the Campbelltown-Camden Tramway, the Kogarah-Sans Souci Tramway, the Ashfield-Enfield Tramway, and the Yass Tramway, which are worked with the railways:—

| Year. | Opened during the year. | Total opened. | Year. | Opened during the year. | Total opened. |
|---|---|---|---|---|---|
| | miles. | miles. | | miles. | miles. |
| 1855 | 16 | 16 | 1879 | 45 | 733 |
| 1856 | 9 | 25 | 1880 | 115 | 848 |
| 1857 | 17 | 42 | 1881 | 148 | 996 |
| 1858 | 15 | 57 | 1882 | 282 | 1,278 |
| 1859 | nil. | 57 | 1883 | 52 | 1,330 |
| 1860 | 13 | 70 | 1884 | 301 | 1,631 |
| 1861 | 4 | 74 | 1885 | 114 | 1,745 |
| 1862 | 24 | 98 | 1886 | 162 | 1,907 |
| 1863 | 27 | 125 | 1887 | 151 | 2,058 |
| 1864 | 20 | 145 | *1888 | 68 | 2,126 |
| 1865 | nil. | 145 | †1889 | 57 | 2,183 |
| 1866 | nil. | 145 | †1890 | 10 | 2,193 |
| 1867 | 60 | 205 | †1891 | 1 | 2,194 |
| 1868 | 44 | 249 | †1892 | 3 | 2,197 |
| 1869 | 70 | 319 | †1893 | 154 | 2,351 |
| 1870 | 21 | 340 | †1894 | 150 | 2,501 |
| 1871 | 19 | 359 | †1895 | 30 | 2,531 |
| 1872 | 38 | 397 | †1896 | nil. | 2,531 |
| 1873 | 5 | 402 | †1897 | 108 | 2,639 |
| 1874 | nil. | 402 | †1898 | 52 | 2,691 |
| 1875 | 33 | 435 | †1899 | 15 | 2,706 |
| 1876 | 73 | 508 | †1900 | 105 | 2,811 |
| 1877 | 90 | 598 | †1901 | 34 | 2,845 |
| 1878 | 90 | 688 | | | |

* Six months ended June. † Year ended June.

Of the 2,845 miles in operation on the 30th June, 1901, there were 2,678 miles of single line, 158½ miles of double line, and 8½ miles of

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line with four tracks. The quadrupled lines, which extend from Sydney to Flemington on the suburban line, were brought into use during the year ended June, 1892. The double lines extend from Flemington to Penrith, 26 miles; Mount Victoria to Blackheath, 3¾ miles; from Granville to Picton, 39½ miles; from Illawarra Line Junction to Waterfall, 23 miles; from Strathfield to Hornsby, 14 miles; from Newcastle to Maitland, 20 miles; from St. Leonards to Milson's Point, 3 miles; from Redfern to Darling Harbour, 1½ mile; from Sydenham to Belmore, 5 miles; and from Teralba to Adamstown, 8 miles; while various short lengths of line make up the remaining 14¾ miles.

The progress of the accommodation afforded by the state railways can be fairly gauged by comparing the number of persons to each mile of line open for traffic at different periods, and the average number of train miles run per inhabitant. Thus, in 1860 there were 4,979 persons to each mile of line, but by the end of the year 1880 the work of construction had proceeded at a rate so much faster than the increase in the population that the average number of persons per mile had fallen to 882, so that the facilities afforded by the railways were more than five times as great as in the year first named; while by 1901 the average population per mile of line was reduced to 466. The increase in the average number of train miles run per inhabitant has been very rapid, rising from 0·5 mile in 1860 to 1·8 in 1870, 4·4 in 1880, and 7·4 miles in 1890. Commencing with 1892, the average declined, until in 1894 it stood at 5·9. In 1899, however, the mileage had risen to 6·7, and in 1901 the figure very closely approximated 8 train miles per head of population. The following statement shows the extension of railway facilities since 1860:—

| Year. | Population to each Mile of Line. | Number of Train Miles run. | Number of Train Miles run per head of Population. |
|---|---|---|---|
| 1860 | 4,979 | 174,249 | 0·5 |
| 1865 | 2,822 | 483,446 | 1·2 |
| 1870 | 1,467 | 901,139 | 1·8 |
| 1875 | 1,366 | 1,472,204 | 2·5 |
| 1880 | 882 | 3,239,462 | 4·4 |
| 1885 | 544 | 6,638,399 | 7·2 |
| 1890 | 502 | 8,008,826 | 7·4 |
| 1891 | 521 | 8,410,421 | 7·5 |
| 1892 | 538 | 8,356,096 | 7·2 |
| 1893 | 515 | 7,505,310 | 6·3 |
| 1894 | 495 | 7,169,785 | 5·9 |
| 1895 | 501 | 7,594,281 | 6·1 |
| 1896 | 510 | 7,719,618 | 6·1 |
| 1897 | 497 | 8,130,405 | 6·4 |
| 1898 | 492 | 8,340,338 | 6·4 |
| 1899 | 497 | 8,806,647 | 6·7 |
| 1900 | 464 | 8,894,352 | 6·6 |
| 1901 | 466 | 10,763,697 | 7·9 |

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## Comparison of Railway Facilities.

New South Wales stands in a good position among the Australasian provinces in regard to railway development, as will be seen from the following table, which shows the mileage of Government and private lines open for traffic in the Commonwealth and New Zealand in June, 1901 :—

| State. | Lines Open. | | |
|---|---|---|---|
| | Government. | Private. | Total. |
| | miles. | miles. | miles. |
| New South Wales... | 2,845 | 85 | 2,930 |
| Victoria ..... | 3,238 | ..... | 3,238 |
| Queensland ..... | 2,801 | 55 | 2,856 |
| South Australia ..... | 1,882 | 19 | 1,901 |
| Western Australia... | 1,355 | 623 | 1,978 |
| Tasmania..... | 446 | 148 | 594 |
| Commonwealth | 12,567 | 930 | 13,497 |
| New Zealand ..... | 2,212 | 88 | 2,300 |
| Australasia..... | 14,779 | 1,018 | 15,797 |

Points of comparison between the railways of a large and thinly-inhabited country such as New South Wales and those of the countries of the Old World are difficult to obtain. The following table, however, shows the average population and the average number of square miles of territory per mile of line open, in the principal countries of the

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world. It will be seen that New South Wales comes fairly well out of the comparison :—

| Countries. | Length of Railway. | Population per Mile of Line. | Area per Mile of Line. |
|---|---|---|---|
| Australasia :— | miles. | No. | sq. miles. |
| New South Wales | 2,930 | 466 | 106 |
| Victoria | 3,238 | 370 | 27 |
| Queensland | 2,856 | 174 | 234 |
| South Australia | 1,901 | 190 | 475 |
| Western Australia | 1,478 | 91 | 493 |
| Tasmania | 594 | 291 | 44 |
| New Zealand | 2,300 | 335 | 45 |
| America :— | | | |
| Argentine Republic | 10,595 | 432 | 105 |
| Brazil | 8,718 | 1,644 | 369 |
| Canada | 17,358 | 306 | 176 |
| Chili | 2,841 | 1,095 | 102 |
| United States of America | 190,833 | 396 | 18 |
| Europe :— | | | |
| Austria-Hungary | 22,147 | 2,030 | 11 |
| Belgium | 2,850 | 2,366 | 4 |
| Denmark | 1,711 | 1,277 | 9 |
| France | 25,980 | 1,483 | 8 |
| Germany | 31,652 | 1,780 | 7 |
| Great Britain and Ireland | 21,700 | 1,885 | 6 |
| Italy | 9,747 | 3,288 | 11 |
| Netherlands | 1,725 | 2,959 | 7 |
| Norway | 1,231 | 1,813 | 101 |
| Portugal | 1,464 | 3,423 | 25 |
| Russia (exclusive of Finland) | 26,689 | 3,884 | 73 |
| Spain | 8,068 | 2,242 | 25 |
| Sweden | 6,649 | 767 | 26 |
| Switzerland | 2,347 | 1,411 | 7 |
| Asia :— | | | |
| India (inclusive of Native States) | 23,405 | 12,272 | 67 |
| Japan | 3,481 | 12,571 | 42 |
| Africa :— | | | |
| Cape Colony | 2,390 | 948 | 116 |
| Natal | 591 | 1,527 | 59 |

## Railway Systems.

The railways of New South Wales are divided into three distinct branches, each representing a system of its own. The Southern system, including the principal line of the state, branches at Junee, and places the important district of Riverina, as far as the town of Hay in one direction and Finley in another, in direct communication with Sydney, from which they are distant 454 and 448 miles respectively. This branch is termed the South-Western line. From several other points of the line, branches connecting other important districts

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with the metropolis have been opened for traffic. From Culcairn, 30 miles from Albury, a line connects with Corowa, on the Murray; and another has been opened from The Rock, between Culcairn and Wagga, to Green's Gunyah. From Cootamundra a line branches off in a southerly direction to Gundagai, whence it will shortly be extended to Tumut, and another in a north-westerly direction to Temora; while from Murrumburrah a line has been constructed to Blayney, on the Western line, to connect the Southern and Western systems of the railways of the state. This branch line has been found of much benefit in allowing the direct shipment of stock from the western pasture grounds to the Victorian markets. From Koorawatha, a station on this line, a branch line 32 miles in length has been constructed, thereby connecting Grenfell with the railway system. Nearer Sydney, the important town of Goulburn will be the centre of a system of branch lines, one of which—that from Goulburn to Cooma—is already laid down, bringing the rich pastoral district of Monaro into direct communication with Sydney, while another line from Goulburn to Crookwell, 35 miles in length, is in course of construction. From Campbelltown, 34 miles from the metropolis, a line 8 miles in length forms a connection between Camden and the Southern railway line.

The Southern main line is the most important of the railway lines in the state, as it passes through the richest and most thickly-populated districts, and places Sydney, Melbourne, and Adelaide in direct communication. The traffic, both passenger and goods, on the Southern system generally, is very extensive, and arrangements for the regular carriage of mails between the two great cities enable letters to be delivered in less than twenty hours. Sleeping-cars are attached to these trains on the New South Wales side, and the comfort of travellers is assured by the introduction of the most modern improvements in the construction and fitting up of the railway carriages. European mails are landed at Adelaide—which is distant 1,085 miles from Sydney—and forwarded overland to all parts of Victoria, New South Wales, and Queensland.

Another line which forms part of the Southern system has been constructed, connecting the metropolis with the coastal district of Illawarra, which is rich alike in coal and in the produce of agriculture. The present terminus is opposite Nowra, on the northern bank of the Shoalhaven River, but it is proposed to take it eventually to Jervis Bay, closely following the coast-line. A proposal has also been made for the construction of a line from the port of Eden at Twofold Bay, in the south of the state, to the township of Bega, in the centre of a rich agricultural district, but this is at present in abeyance. At Sydenham, on the Illawarra railway, a line, 5 miles in length, branches off to Belmore, and this will no doubt eventually be continued to Liverpool, a township on the main Southern line.

The western system of railways extends from Sydney in the direction of the Blue Mountains, of which it reaches the upper levels a little

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above Emu Plains by a direct line of steep gradient, which enables the locomotive to drag its heavy freight up the abrupt eastern slope of the mountains. Up to the 18th December, 1892, a zigzag line was used to enable trains to climb this slope of the mountains; but on the date mentioned a deviation by which the zigzag was avoided was opened for traffic. To admit of a direct line of ascent, a tunnel, 32½ chains in length, had to be constructed through part of a mountain. The line runs along the top of the range until it descends into a valley below Mount Clarence by the Lithgow zigzag, the construction of which is a triumph of engineering skill. In its course over the mountains the railway passes through magnificent scenery of a character peculiar to this part of the world, and remarkable for its rugged grandeur. Leaving the mountains, the Western line, after throwing out a branch from Wallerawang to Mudgee, enters the Bathurst Plains, and connects with the metropolis the rich agricultural lands of the Bathurst, Orange, and Wellington districts. Beyond Dubbo it enters the pastoral country, and reaches the Darling at Bourke, 503 miles from Sydney. At Blayney, as before stated, the Western line is connected with the Southern line by a branch line to Murrumburrah; at Orange a branch line, 97 miles in length, connects that town with Forbes; and from Parkes, one of the stations on this branch line, an extension to Condobolin, 62½ miles distant, has been constructed. Farther west, on the main line at Nevertire, a short line of 12½ miles in a northerly direction, connects the town of Warren; and at Nyngan, 377 miles from Sydney, a branch line connects the important mining district of Cobar with Sydney, affording at the same time rapid and sure means of communication with the pastoral country of which Cobar is also the centre. It has been proposed to continue this line as far as Wilcannia, on the Darling, whence it might be extended to Broken Hill, to meet the South Australian system, but for the present the latter project remains in abeyance. Two important extensions were, however, under construction in July, 1901, namely those from Dubbo to Coonamble, 95½ miles, and from Byrock to Brewarrina, 58 miles. The Western railway system also includes a short line from Blacktown to Richmond, on the Hawkesbury River.

The Northern system originally commenced at Newcastle, but a connecting line between Strathfield and Hamilton has been constructed, making Sydney the head of the whole of the railway systems of the state. The Hawkesbury River has been crossed by an iron bridge, 2,896 feet long, in seven spans, the iron superstructure of which cost £327,000. This connecting line permits of direct communication between Adelaide, Melbourne, Sydney, and Brisbane, a distance from end to end of 1,808 miles, or, altogether, between the termini of Oodnadatta, in South Australia, and Cunnamulla, in Queensland, there is one continuous line of railway, 3,100 miles in length. The Northern line runs *vid* Newcastle and the great coal centres through the rich agricultural district of the Hunter Valley, to the important part of the state known

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as New England, passing through some of the largest inland towns in New South Wales, such as Maitland. The country traversed north of Newcastle is extremely fertile. As the line goes farther north it passes through a rich pastoral and agricultural territory, and some important townships are reached, viz., Tamworth, Armidale, Glen Innes, and Tenterfield, and 11 miles beyond the last-mentioned township the line crosses the border at Jennings or Wallangarra, where a junction is effected with the Queensland railways.

The Northern system also comprises a branch from Werris Creek *via* Moree to Gravesend, in the north-west of the state, which has been extended to Inverell, thus placing the Namoi and Gwydir pastoral districts in direct communication with the ports of Newcastle and Sydney. A further extension is also in progress to connect Walgett with Narrabri, and to allow of a branch to Collarendabri, the total length of these additional lines being 155¾ miles. In the New England district a line has long been projected, which would connect the town of Glen Innes with the city of Grafton, on the Clarence River; an alternative line has been surveyed to connect the Clarence and New England districts, the proposed junction on the Northern line being at Llangothlin, but both this route and the one proposed from Glen Innes to Grafton present physical difficulties of such a magnitude that it is doubtful if either line will be carried out, at all events for some time to come. A portion of the North Coast railway, 61 miles in length, from Murwillumbah, on the Tweed, to Lismore, on the Richmond, was opened for traffic in 1894. An extension of this line to Casino is in course of construction, and a further extension to Grafton has received parliamentary sanction.

A short line branches off the main Northern line at Hornsby, 21 miles from Sydney, and connects with the north shore of Port Jackson, at Milson's Point. Proposals have been made from time to time to bridge the harbour, or to tunnel beneath it, and thus allow direct communication by rail between the suburbs on the north and the city on the south shore. In 1896 various proposals were submitted to a Parliamentary Committee, who reported in favour of a tunnel, and this action was endorsed by the Assembly when considering the private Bills introduced for the purpose of providing the means of communication between the city and North Sydney. So far, however, legislative sanction to the construction of such a work has not been secured. On the other hand, the opinion seems to have gained ground, that the recommendation of the Parliamentary Committee should not be carried out, but that a bridge should be constructed instead of a tunnel.

Authority was obtained in 1886 for a private line from Clyde to Rosehill, and in 1893 for a line from Rosehill to Dural. Only the first-mentioned line was completed; but the other was advanced a considerable stage. The entire length from Clyde was recently acquired by the Government, and was opened as far as Carlingford in August, 1901, the distance being 4 miles 41 chains.

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During 1890, legislative sanction was obtained for the construction of a private line from the quarries at Tarrawingee to the tramway system of the Broken Hill mines, a distance of about 39 miles. Authority was given by Parliament for the purchase of the line for the sum of £15,000, and, on the 7th September, 1899, it was handed over to the Railway Commissioners, who, as mentioned on a previous page, arranged with the Silverton Railway Company to work it for five years.

## GRADIENTS.

The railways of the state have been constructed with a large proportion of steep gradients, but much has been done during the last few years to reduce some of the heaviest of these. The Railway Commissioners, in one of their Annual Reports, drew a comparison between the New South Wales lines and the Alpine railways, and it was found that the gradients were steeper, and the curves sharper, on the lines of this state than on the Alpine lines. By reducing some of the gradients, and introducing locomotives of greater power than were formerly employed, considerable economy in working, as well as the expediting of traffic, has been effected. The traffic is now carried on more satisfactorily, and the expense of extensive duplication works, which would have been necessary under the system which previously existed, has been postponed for years. However, a great deal remains to be accomplished in the matter of reducing gradients, as will be seen on reference to the following table, which shows the number of miles on different gradients in June, 1901. The distances given include the increased length of lines for deviations, and are therefore in excess of the time-table distances :—

| Gradients. | Southern System. | Western System. | Northern System. | Total. |
|---|---|---|---|---|
| 1 in | miles. | miles. | miles. | miles. |
| 18 to 30 | 4¼ | 1½ | Nil. | 5¾ |
| 31 „ 40 | 54 | 73½ | 34½ | 162 |
| 41 „ 50 | 58½ | 50¾ | 70¼ | 179¼ |
| 51 „ 60 | 39 | 54¼ | 42½ | 135¾ |
| 61 „ 70 | 42½ | 49¼ | 27¾ | 119½ |
| 71 „ 80 | 83¼ | 47½ | 57 | 187¾ |
| 81 „ 90 | 30 | 35 | 23¼ | 88¼ |
| 91 „ 100 | 59¾ | 69¼ | 52¼ | 181¼ |
| 101 „ 150 | 108 | 100¾ | 87½ | 296¼ |
| 151 „ 200 | 62½ | 51¼ | 51½ | 165¼ |
| 201 „ 250 | 30¼ | 20½ | 20¼ | 71 |
| 251 „ 300 | 42 | 32¼ | 36 | 110¼ |
| 301 „ level | 448 | 367¾ | 289¾ | 1,105½ |
| Total..... | 1,062 | 953¼ | 792½ | * 2,807¾ |

* Exclusive of the Tarrawingee line.

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## Cost of Construction.

The following table shows the cost of construction of the various branches of the railway system to the middle of the year 1901. The average cost of the whole of the lines is calculated to be £11,691 per mile, including all charges except those for rolling-stock, machinery, furniture and workshops—a figure which, considering the character of some parts of the country through which the lines have been carried, and the cost of labour, which is considerably greater in Australia than in most other countries, is by no means a high one. In considering in detail the figures given, it is interesting to note the comparative low cost per mile of some of the extensions through pastoral country. The line from Nyngan to Cobar averaged £3,753 per mile; that from Molong to Forbes, £5,348; from Junee to Hay, £5,832; from Werris Creek to Narrabri, £6,037; and from Dubbo to Bourke, £6,010. But the lines of the "pioneer" class in a special manner show that in certain districts of the state railways capable of effectively carrying the traffic can be constructed at an average cost far below what had previously been attempted. The average cost of the line from Nevertire to Warren was £3,141 per mile; that from Narrabri to Moree £2,412 per mile; that from Moree to Gravesend, £2,429 per mile; that from Jerilderie to Berrigan, £1,975 per mile; that from Berrigan to Finley, £2,425 per mile; that from Parkes to Condobolin, £1,902 per mile; and that from Tamworth to Manilla, £2,725 per mile. In connection with the Culcairn-Corowa line, which averaged £4,538 per mile, the betterment system was brought into operation. The Campbelltown to Camden, the Kogarah to Sans Souci, the Yass, and the Tarrawingee lines were constructed cheaply for tram-lines:—

| Lines opened for Traffic. | Length. | Total Cost. | Cost per Mile. |
|---|---|---|---|
| | m. ch. | £ | £ |
| Darling Harbour Branch | 1 42½ | 370,929 | 242,239 |
| Sydney to Granville | 14 58¼ | 1,965,052 | 133,422 |
| Granville to Goulburn | 121 5¾ | 2,593,679 | 21,423 |
| Goulburn to Wagga | 174 79¼ | 1,628,535 | 9,306 |
| Wagga to Wodonga | 79 13¾ | 920,056 | 11,621 |
| Junee to Hay | 167 35¾ | 976,578 | 5,832 |
| Narrandera to Jerilderie | 64 54¾ | 410,058 | 6,339 |
| Granville to Penrith | 21 26¼ | 610,659 | 28,632 |
| Penrith to Bathurst | 109 27 | 2,461,548 | 22,513 |
| Bathurst to Dubbo | 134 5 | 1,306,420 | 9,745 |
| Dubbo to Bourke | 225 45 | 1,355,536 | 6,010 |
| Wallerawang to Mudgee | 85 06 | 982,796 | 11,552 |
| Blacktown to Richmond | 16 12 | 177,158 | 10,969 |
| Goulburn to Cooma | 130 40 | 1,404,011 | 10,759 |
| Cootamundra to Gundagai | 33 45½ | 324,717 | 9,673 |
| Orange to Molong | 22 60 | 270,296 | 11,881 |
| Murrumburrah to Blayney | 110 63 | 1,087,184 | 9,813 |
| Sydney to Kiama | 71 53 | 1,963,020 | 27,393 |

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| Lines opened for Traffic. | Length. | Total Cost. | Cost per Mile. |
|---|---|---|---|
| | m. ch. | £ | £ |
| Homebush to Waratah | 93 03 | 2,709,058 | 29,118 |
| Newcastle to Wallangarra | 392 54 | 5,076,566 | 12,928 |
| Werris Creek to Narrabri | 96 48 | 583,157 | 6,037 |
| Bullock Island Branch | 1 45½ | 92,932 | 59,240 |
| Morpeth Branch | 3 37½ | 60,913 | 17,561 |
| Hornsby to Milson's Point | 13 27½ | 645,137 | 48,348 |
| Campbelltown to Camden | 7 65 | 41,033 | 5,252 |
| Kogarah to Sans Souci | 4 71 | 12,272 | 2,511 |
| Kiama to Nowra | 22 43½ | 363,747 | 16,135 |
| Lismore to Murwillumbah | 63 57 | 891,463 | 13,992 |
| Sydenham to Belmore | 5 3½ | 187,256 | 37,126 |
| Culcairn to Corowa | 47 39 | 215,518 | 4,536 |
| Nyngan to Cobar | 81 27½ | 305,244 | 3,753 |
| Cootamundra to Temora | 38 69 | 169,332 | 4,357 |
| Molong to Forbes | 72 69 | 389,655 | 5,348 |
| Yass Tramway | 2 73 | 28,339 | 9,730 |
| Jerilderie to Berrigan | 21 65 | 43,075 | 1,975 |
| Parkes to Condobolin | 62 60½ | 119,374 | 1,902 |
| Narrabri to Moree | 63 10 | 152,247 | 2,412 |
| Nevertire to Warren | 12 33½ | 38,999 | 3,141 |
| Berrigan to Finley | 13 73 | 33,738 | 2,425 |
| Tarrawingee Tramway | 40 7 | 24,972 | 623 |
| Ashfield to Enfield Tramway | 2 10 | 13,093 | 6,161 |
| Tamworth to Manilla | 29 41½ | 80,457 | 2,725 |
| Moree to Gravesend | 35 0 | 85,000 | 2,429 |
| Koorawatha to Grenfell | 32 8 | 95,580 | 2,978 |
| Total or average | 2,845 34 | 33,266,389 | 11,691 |

The amount expended on rolling-stock to the 30th June, 1901, was £4,677,001; for machinery, £340,657; on workshops, £638,698; and for furniture, £10,036; or £5,666,392 in all. This makes the total cost of all lines open for traffic, £38,932,781, or an average of £13,682 per mile. The growth of the capital expenditure on lines open may be traced below :—

| Year. | Capital expended on lines open. | Year | Capital expended on lines open. |
|---|---|---|---|
| | £ | | £ |
| 1855 | 515,347 | 1891 | 31,768,617 |
| 1860 | 1,422,672 | 1892 | 33,312,608 |
| 1865 | 2,746,373 | 1893 | 34,657,571 |
| 1870 | 5,566,092 | 1894 | 35,855,271 |
| 1875 | 7,245,379 | 1895 | 36,611,366 |
| 1880 | 11,778,819 | 1896 | 36,852,194 |
| 1885 | 21,831,276 | 1897 | 37,369,205 |
| 1886 | 24,071,454 | 1898 | 37,719,402 |
| 1887 | 26,532,122 | 1899 | 37,992,276 |
| 1888 | 27,722,748 | 1900 | 38,477,269 |
| 1889 | 29,839,167 | 1901 | 38,932,781 |
| 1890 | 30,555,123 | | |



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The cost of the lines open for traffic on the 30th June, 1901, as already stated, was £38,932,781. Of this amount, £903,565 has been provided from the Consolidated Revenue of the state, and debentures to the amount of £1,904,875 have been finally paid off, leaving a balance of £36,124,341 which has been raised by the issue of debentures and other stock. As will be seen hereafter, the net revenue for the year ended June, 1901, after paying working expenses, was £1,530,578, which gave a return of 3·94 per cent. upon the total capital expenditure on lines open for traffic, and 4·24 per cent. upon the capital on which the country has to pay interest. The so-called reduction of the railway debt is purely imaginary, seeing that the bulk of the debentures retired were renewed out of fresh loans, and the sum paid from revenue to redeem loans was not furnished by railway profits. The proper comparison between railway earnings and interest charged is obtained from the net earnings of railways on cost of construction, and the actual interest paid by the state on outstanding loans. The net earnings of the railways represent 3·94 per cent. on the cost of construction; but as the average price obtained for the loans of the state was 96·59 per £100 of stock, the actual earnings of the railways cannot be taken at more than 3·81 per cent., while the interest charged on outstanding loans is 3·61 per cent. Another point to be considered is that the sum of £1,000,000 was authorised by Parliament to be expended in connection with the improvements to the grades on main lines, and the quadrupling of the suburban system. The cost of these urgent works was to be defrayed from the proceeds of loans, on the understanding that the loans should be redeemed from railway revenue at the rate of £75,000 a year, and already £750,000 has been nominally redeemed. This redemption has been effected at the expense of the general revenue, seeing that in the years when the redemption was made there was not sufficient railway revenue to meet working expenses and interest, and there has, therefore, really been no reduction of capital effected by these payments.

The cost of railway construction in the principal countries of the world for which figures are available, is given hereunder. The figures include the whole expense of equipping the lines for traffic, and are brought down to the latest available dates:—

| Countries. | Cost per Mile open for Traffic. | Countries. | Cost per Mile open for Traffic. |
|---|---|---|---|
| | £ | | £ |
| United Kingdom ..... | 53,102 | Australasia :— | |
| France ..... | 27,697 | New South Wales... | 13,487 |
| Germany ..... | 20,257 | Victoria ..... | 12,398 |
| Switzerland ..... | 20,818 | Queensland ..... | 7,022 |
| Norway ..... | 7,303 | South Australia..... | 8,062 |
| Sweden ..... | 5,693 | Western Australia... | 5,239 |
| Canada ..... | 11,578 | Tasmania..... | 7,300 |
| United States ..... | 12,765 | New Zealand ..... | 7,813 |
| Cape Colony ..... | 10,517 | | |

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## New Lines and Revenue Returns.

The contrast between the present condition of the New South Wales railways and their humble beginning in 1855 is a remarkable one. In 1856, the first year which can fairly be taken for purposes of comparison, the number of passengers on the railways was only 350,724, whilst in the year ended June 30, 1901, the number was 29,261,324, or more than 83 times greater. But the tonnage of goods carried represents a very much larger increase, having grown from 2,469 to 6,398,227—the traffic having expanded to 2,591 times its original volume since the first full year of railway operations. For the first ten years of the period under review the larger part of the railway earnings was obtained from the passenger traffic, no doubt owing to the fact that the first railways were almost entirely suburban. It was not until the line crossed the mountains and opened up the far interior that the proportions changed, and the goods traffic became the principal source of revenue of the railways. This change began to take place in 1867.

The comparison between the earnings of the period prior to 1871—when the net result every year represented only a small portion of the interest due on the capital expended in the construction of the lines—and of the subsequent period, affords matter for satisfaction. The figures for 1886 and 1887 show a falling-off from those of the previous fourteen years; but it should be borne in mind in comparing these two years with the excellent results exhibited during the period from 1874 to 1884, when an average of considerably over 4 per cent. was realised, that the fall in receipts was due in a great measure to the previous years of drought.

During the years 1884 and 1885 the last section of the main western line, extending over a distance of 112 miles as far as Bourke, was opened, and the line branching off from Wallerawang was completed as far as Mudgee, the length being 85 miles. On the south-western railway the branch line, Narrandera to Jerilderie, covering a distance of 65 miles, was opened for traffic. All these extensions run through very sparsely settled districts, and this was the case with regard to nearly the whole of the other 172 miles opened during the two years mentioned. This total of 412 miles opened for traffic in unproductive country caused a serious falling-off in the proportion of receipts to expenditure during the period ended June, 1888, the net revenue yielding less than 3 per cent. on the total expenditure. Since that time, despite the addition of further unprofitable lines to the system, the returns have improved step by step, rising in the years 1891 and 1892 to 3·59 and 3·58 per cent., and during the four years of depression ended 1896 never falling below 3·44 per cent., while in 1897, 1898, and 1899 returns of 3·79, 3·74, and 3·83 per cent. were obtained. In the year 1899-1900, mainly owing to the decrease in the live stock and wool carried,

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consequent upon the drought, the percentage fell to 3·63, but it rose to 3·94 in the succeeding year. As will be seen farther on, the burden of unprofitable lines continues to be heavy, the loss on 1,257 miles during the years ended 31st December, 1896 and 1897, being no less than £357,093 and £349,754 respectively; while that for 1,368 miles during the year ended 31st December, 1898, was £329,859. For 1,287 miles, during the year ended December, 1899, the loss was £318,040, which increased to £324,230 for the following twelve months; but the expenses of working are kept as low as possible. The fact that the lines as a whole have not in the past returned a profit should occasion no surprise, as the statistics of railways in all parts of the world show that few lines, except perhaps suburban ones, return anything like a profit during the first few years after their opening. In England a period of seven years has been allowed by good authorities for a line to develop traffic; and if such is the fact in more densely-populated countries, whose resources are more developed than is the case in New South Wales, there is every reason to be satisfied with the fact that the lines of this state have yielded so good a return as the figures show.

A glance at the table showing the net earnings and the interest on the capital expended upon railways, which will be found on page 488, will disclose the fact that during the period from 1870 to 1875, when the length of new lines yearly constructed was very small, being only 116 miles during the whole period of six years, or about 19⅓ miles per year, the railway profits steadily increased from 1·81 to 4·39 per cent. During 1877 and 1878, 180 miles of railway were constructed, and the profits immediately declined to 3·74 and 3·34 per cent. respectively. From 1880 to 1884 the railways were extended chiefly to centres already populous and prosperous, viz., Riverina and New England, and the central districts of Wellington and Dubbo; and as these were years of remarkable prosperity, the railway profits suffered less than usual from the considerable extension, which included the construction of the expensive connecting-link joining the New South Wales railways with those of Victoria, at the river Murray. From 1885 the extensions on the main lines have, for the most part, been through pastoral country, such as the continuation of the Western line to Bourke, the Northern line to Jennings, and the further extensions of the lines in the Goulburn district to the rich pastoral lands of Monaro; while several branch lines were constructed tapping important agricultural and dairy-farming districts, notably the lines Cootamundra to Gundagai, Cootamundra to Temora, Murrumburrah to Blayney, Nyngan to Cobar, Culcairn to Corowa, Sydney to Nowra, Narrandera to Jerilderie, Berrigan and Finley, Orange to Molong, Parkes, Forbes, and Condobolin, and Nevertire to Warren. With the exception of the line from Nyngan to Cobar, none of the lines mentioned yet pays its way, the loss on some being very heavy. There was also constructed an isolated line, 61 miles in length, from Lismore to Murwillumbah, which likewise shows a heavy loss on working. In some cases the value

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of the branch lines will not be felt until the entire system of which they form part is completed, or until they become trunk lines. For instance, in the case of the Goulburn to Cooma line, a proposal has been under consideration for continuing this line to the Victorian border, with a branch line to Eden, Twofold Bay. It is expected that the Gippsland line will be extended from Bairnsdale to the border, and that by the junction of these two lines an alternative route to Melbourne will be obtained. In that case, no doubt, the eastern part of Gippsland would find its natural port at Eden. Expensive new lines result in an increase of the percentage of working expenses to the gross earnings, as these lines have to be kept in full working order and repair whilst actually returning in gross earnings little more than the cost of maintenance. The small returns on expensive incompleted branches further tend to diminish greatly the profits of a railway system taken as a whole; but such is the history of railway construction in all parts of the world, and New South Wales is no exception to the general rule.

The following table shows the loss on non-paying lines during the last four calendar years. It should be noted that the capital cost includes the expenditure on equipment as well as construction:—

| Line. | Length. | Capital Cost. | Loss in Working, after providing for Working Expenses and Interest. | | | |
|---|---|---|---|---|---|---|
| | | | 1897. | 1898. | 1899. | 1900. |
| | mls. ch. | £ | £ | £ | £ | £ |
| Goulburn to Cooma | 130 40 | 1,463,105 | 42,047 | 42,331 | 45,637 | 41,168 |
| Murrumburrah to Blayney | 110 63 | 1,148,888 | 40,555 | 38,551 | 40,503 | 33,880 |
| Cootamundra to Gundagai | 33 45 | 339,082 | 5,083 | 4,161 | 2,900 | 7,434 |
| Cootamundra to Temora | 38 69 | 194,167 | 3,519 | 2,866 | 3,513 | 2,744 |
| Junee to Hay | 167 36 | 1,068,370 | 16,852 | 14,476 | 14,882 | 19,057 |
| Narrandera to Jerilderie, Berrigan and Finley | 100 33 | 518,914 | 11,747 | 12,536 | 13,806 | 15,592 |
| Culcairn to Corowa | 47 39 | 236,302 | 7,323 | 7,008 | 5,716 | 7,678 |
| Sydney to Kiama | 71 53 | 2,191,663 | 37,631 | 27,259 | 23,389 | 30,876 |
| Kiama to Nowra | 22 43 | 381,224 | 12,504 | 12,123 | 11,521 | 10,995 |
| Sydenham to Belmore | 5 3 | 207,613 | 7,923 | 7,934 | 7,528 | 7,679 |
| Blacktown to Richmond | 16 12 | 198,180 | 5,074 | 4,237 | 5,940 | 2,570 |
| Wallerawang to Mudgee | 85 6 | 1,044,146 | 26,671 | 25,563 | 25,159 | 25,806 |
| Orange to Molong, Parkes and Forbes, Bogan Gate and Condobolin | 159 29 | 857,798 | 3,634 | 3,206 | 2,506 | 1,285 |
| Nyngan to Cobar | 81 27 | 305,244 | 1,392 | 451 | Nil. | Nil. |
| Hornsby to Milson's Point | 13 28 | 657,076 | 14,602 | 12,856 | 10,720 | 12,876 |
| Tamworth to Armidale | 76 76 | 1,216,769 | 28,433 | 28,367 | 21,838 | 22,690 |
| Armidale to Jennings | 132 43 | 1,540,535 | 56,366 | 56,931 | 52,624 | 51,010 |
| Lismore to Murwillumbah | 63 57 | 928,310 | 28,398 | 28,138 | 29,273 | 29,856 |
| Nevertire to Warren | 12 33 | 48,340 | .....* | 865 | 585 | 1,034 |
| Total | 1,368 15 | 14,545,726 | 349,754 | 329,859 | 318,040 | 324,230 |

* Not opened.

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The Railway Commissioners in their annual report for 1891 suggested a plan of paying for new lines from the sale of lands. They recommended that the Crown lands for a distance of 10 miles on each side of a proposed line of railway should be set aside for sale, and half the proceeds of the land sold credited to the railway capital; and where the land required for railway construction had passed into the hands of private individuals, the land-owners should combine and convey the necessary land free of cost to the Government, it being considered that the owners would be fully remunerated for the gift of the land by the enhanced value of their property caused by the establishment of direct railway communication with the other parts of the state. By the adoption of such a system as this it is believed that railways in light undulating country could be constructed at a moderate cost, and yield a fair return on capital from the commencement, especially what are known as "pioneer railways," which could be constructed at an average of about £1,750 per mile, exclusive of bridges.

The betterment system as applied to railways was first introduced in the construction of the Culcairn to Corowa Railway. No special Act was passed for the general establishment of this principle; but by a proviso in a clause of the Public Works Act the Government was empowered to apply the principle to all railways constructed subsequent to the date of the passing of the Act. In estimating the enhanced value of the land adjoining the Culcairn to Corowa railway line, the stations were assumed to be 10 miles apart, the betterment area having a 5-mile radius from each station, and the land in the vicinity of each station being considered to have an enhanced value of 25 per cent., graduating to 5 per cent. at the limit of the radius. In the case of the extension of the railway along the southern coast it is found that the enhanced value does not reach so high a percentage, owing to the facilities which exist for the transport of produce by water.

## Gross Earnings and Working Expenses.

The gross amount of revenue derived from all sources connected with the Government railways in New South Wales during the year ended 30th June, 1901, was £3,573,779, being an increase of £410,207 as compared with the preceding year. The working expenses were £2,043,201, or £273,681 in excess of 1900; and the net earnings were £1,530,578—an increase of £136,526 over the results obtained during the previous twelve months. The net earnings were, therefore, 42·8 per cent. of the total earnings, as against 33·3 per cent. when the Commissioners took office. The following table gives the gross earnings and the total working expenses, with the proportion of the expenditure to the receipts. It

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should be borne in mind that since the year 1887 the railway accounts have been made up to the 30th June in each year :—

| Year. | Gross Earnings. | Working Expenses. | Proportion of working expenses to gross earnings. | Year. | Gross Earnings. | Working Expenses. | Proportion of working expenses to gross earnings. |
|---|---|---|---|---|---|---|---|
| | £ | £ | per cent. | | £ | £ | per cent. |
| 1855 | 9,249 | 5,959 | 64·4 | 1891 | 2,974,421 | 1,831,371 | 61·6 |
| 1860 | 62,269 | 50,427 | 81·0 | 1892 | 3,107,296 | 1,914,252 | 61·6 |
| 1865 | 166,032 | 108,926 | 65·6 | 1893 | 2,927,056 | 1,738,516 | 59·4 |
| 1870 | 307,142 | 206,003 | 67·1 | 1894 | 2,813,541 | 1,591,842 | 56·6 |
| 1875 | 614,648 | 296,174 | 48·2 | 1895 | 2,878,204 | 1,567,589 | 54·5 |
| 1880 | 1,161,017 | 647,719 | 55·8 | 1896 | 2,820,417 | 1,551,888 | 55·0 |
| 1885 | 2,174,368 | 1,458,153 | 67·1 | 1897 | 3,014,742 | 1,601,218 | 53·1 |
| 1886 | 2,160,070 | 1,492,992 | 69·1 | 1898 | 3,026,748 | 1,614,605 | 53·3 |
| 1887 | 2,208,295 | 1,457,760 | 66·0 | 1899 | 3,145,273 | 1,690,442 | 53·7 |
| 1888 | 2,295,124 | 1,530,551 | 66·7 | 1900 | 3,163,572 | 1,769,520 | 55·9 |
| 1889 | 2,538,477 | 1,634,602 | 64·4 | 1901 | 3,573,779 | 2,043,201 | 57·2 |
| 1890 | 2,633,086 | 1,665,835 | 63·3 | | | | |

In the foregoing table will be found ample evidence of the economical working of the state railways under their present management. The next table shows the expenditure per train mile run. It will be seen that since 1890 there has been a diminution in the expenses, although the management have effected a thorough overhaul of the property in their hands :—

| Head of Expenditure. | 1880. | 1885. | 1890. | 1895. | 1898. | 1900. | 1901. |
|---|---|---|---|---|---|---|---|
| | d. | d. | d. | d. | d. | d. | d. |
| Maintenance of way, etc. | 11·40 | 15·71 | 15·39 | 12·63 | 10·18 | 10·33 | 10·81 |
| Locomotive power..... | 16·33 | 15·62 | 16·73 | 15·63 | 17·19 | 16·31 | 16·98 |
| Repairs and Renewals— carriages and waggons | 2·47 | 2·65 | 4·59 | 4·13 | 4·00 | 4·33 | 3·89 |
| Traffic expenses..... | 15·83 | 14·92 | 15·07 | 13·96 | 13·11 | 11·95 | 11·98 |
| Compensation ..... | 0·50 | 0·30 | 0·97 | 1·05 | 0·10 | 0·10 | 0·25 |
| General expenses ..... | 1·46 | 3·52 | 2·16 | 2·14 | 1·88 | 1·66 | 1·65 |
| Total ..... | 47·99 | 52·72 | 54·91 | 49·54 | 46·46 | 44·68 | 45·56 |

The following table gives the percentage of earnings from the two sources of railway revenue. It will be observed that in the year 1860 the earnings from passenger traffic largely exceeded those from goods, but after that year the proportion derived from that source declined, reaching the minimum in 1875. This falling-off was almost entirely due to the considerable extension of the main lines through pastoral country, thinly populated, but well stocked with sheep and cattle, and

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consequently furnishing the railways with large quantities of produce for carriage to the seaboard. From 1880 to 1889, however, the percentage of receipts from coaching traffic steadily advanced, the proportion in the year last named being as high as 40·4 per cent. of the total revenue. For the year ended 30th June, 1899, the coaching traffic contributed but 36·8 per cent. to the total railway earnings; but in 1900 and 1901 the percentage rose to 38·2 and 38·6 respectively :—

| Year. | Percentage of— | | Year. | Percentage of— | |
|---|---|---|---|---|---|
| | Coaching Traffic to Total. | Goods Traffic to Total. | | Coaching Traffic to Total. | Goods Traffic to Total. |
| 1860 | 73·0 | 27·0 | 1891 | 39·6 | 60·4 |
| 1865 | 56·0 | 44·0 | 1892 | 38·3 | 61·7 |
| 1870 | 38·4 | 61·6 | 1893 | 38·1 | 61·9 |
| 1875 | 33·5 | 66·5 | 1894 | 37·2 | 62·8 |
| 1880 | 33·6 | 66·4 | 1895 | 35·1 | 64·9 |
| 1885 | 38·2 | 61·8 | 1896 | 37·0 | 63·0 |
| 1886 | 39·3 | 60·7 | 1897 | 36·4 | 63·6 |
| 1887 | 38·5 | 61·5 | 1898 | 37·2 | 62·8 |
| 1888 | 40·1 | 59·9 | 1899 | 36·8 | 63·2 |
| 1889 | 40·4 | 59·6 | 1900 | 38·2 | 61·8 |
| 1890 | 40·2 | 59·8 | 1901 | 38·6 | 61·4 |

## Net Earnings and Interest on Capital.

The net revenue for the year which expired on the 30th June, 1901, was £1,530,578, while the total amount of capital expended on lines in operation to the same period was £38,932,781. The net return on the capital expended equalled 3·94 per cent., which is 0·33 per cent. above the nominal interest payable on the public debt, and 0·13 per cent. above the actual interest, taking into consideration the price received for stock sold. The following table shows the net earnings and the interest returned on the total capital expended on railways, including the cost of both construction and equipment, for the year 1855 and subsequent periods :—

| Year. | Net Earnings. | Interest on Capital. | Year. | Net Earnings. | Interest on Capital. |
|---|---|---|---|---|---|
| | £ | per cent. | | £ | per cent. |
| 1855 | 3,290 | 0·63 | 1891 | 1,143,050 | 3·59 |
| 1860 | 11,842 | 0·83 | 1892 | 1,193,044 | 3·58 |
| 1865 | 57,106 | 2·07 | 1893 | 1,188,540 | 3·48 |
| 1870 | 101,139 | 1·81 | 1894 | 1,221,699 | 3·46 |
| 1875 | 318,474 | 4·39 | 1895 | 1,310,615 | 3·60 |
| 1880 | 513,298 | 4·35 | 1896 | 1,268,529 | 3·44 |
| 1885 | 716,215 | 3·37 | 1897 | 1,413,524 | 3·79 |
| 1886 | 667,078 | 2·90 | 1898 | 1,412,143 | 3·74 |
| 1887 | 750,535 | 2·96 | 1899 | 1,454,831 | 3·83 |
| 1888 | 764,573 | 2·85 | 1900 | 1,394,052 | 3·63 |
| 1889 | 903,875 | 3·14 | 1901 | 1,530,578 | 3·94 |
| 1890 | 967,251 | 3·17 | | | |

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Two important facts which demonstrate the financial position of the railways and the character of the management are the earnings per train mile and per average mile open. Although the returns now being realised cannot be compared with those of 1875, when the net earnings per train mile fell little short of 52d., and per mile open £775, the present earnings are in every way encouraging. Under the control of the Commissioners the net return per train mile has increased from 27·4d. to 34·1d., or 24·5 per cent.; while per mile of line open for traffic the advance has been from £374 to £551, or 47·3 per cent. The following table gives details of the net earnings since 1860 :—

| Year. | Net Earnings per— | | Year. | Net Earnings per— | |
|---|---|---|---|---|---|
| | Train Mile. | Mile Open. | | Train Mile. | Mile Open. |
| | d. | £ | | d. | £ |
| 1860 | 15·9 | 189·5 | 1891 | 32·6 | 523·8 |
| 1865 | 28·3 | 399·3 | 1892 | 34·3 | 546·6 |
| 1870 | 26·9 | 307·4 | 1893 | 38·0 | 513·2 |
| 1875 | 51·9 | 774·8 | 1894 | 40·9 | 503·3 |
| 1880 | 38·0 | 653·1 | 1895 | 41·4 | 520·9 |
| 1885 | 25·9 | 430·6 | 1896 | 39·5 | 501·2 |
| 1886 | 24·7 | 372·6 | 1897 | 41·7 | 549·0 |
| 1887 | 27·8 | 387·7 | 1898 | 40·6 | 531·1 |
| 1888 | 27·4 | 374·0 | 1899 | 39·6 | 538·0 |
| 1889 | 28·4 | 424·7 | 1900 | 37·6 | 508·0 |
| 1890 | 29·0 | 444·3 | 1901 | 34·1 | 551·0 |

## PASSENGER TRAFFIC.

The number of journeys made by each person in the state now averages 21·4 per annum, as against 7·5 in 1880 and 1·6 in 1870. The increase has been exceedingly rapid as well as fairly uniform, as will be seen from the following table :—

| Year. | Number of Journeys. | Year. | Number of Journeys. |
|---|---|---|---|
| 1855 | 0·4 | 1891 | 17·0 |
| 1860 | 1·6 | 1892 | 17·1 |
| 1865 | 1·9 | 1893 | 16·7 |
| 1870 | 1·6 | 1894 | 15·9 |
| 1875 | 2·3 | 1895 | 15·9 |
| 1880 | 7·5 | 1896 | 16·6 |
| 1885 | 14·6 | 1897 | 17·7 |
| 1886 | 15·4 | 1898 | 17·8 |
| 1887 | 14·4 | 1899 | 18·7 |
| 1888 | 14·9 | 1900 | 19·7 |
| 1889 | 15·3 | 1901 | 21·4 |
| 1890 | 15·8 | | |

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The figures just given include journeys of season ticket-holders; excluding this traffic, the number of journeys per head would be about 11·6. The average number of journeys made by the inhabitants of the United Kingdom is 27, and of Western Australia and Victoria, 37·88 and 45·69 respectively—figures which largely exceed those of any other population. The averages of some of the other important countries and states are:—Belgium, 19·1; France, 10·0; Germany, 13·5; United States, 6·9; Austria-Hungary, 4·2; Norway, 4·3; Sweden, 4·5; Switzerland, 15·8; Netherlands, 5·5; Spain, 1·9; South Australia, 23·53; Queensland, 9·55; New Zealand, 8·10; and Tasmania, 3·95. The total number of journeys made by passengers, including season ticket-holders, the revenue received from the coaching traffic, and the average receipts per journey, are shown in the next table, which should be read in conjunction with that just given :—

| Year. | Passenger journeys. | Receipts from Coaching Traffic. | Average Receipts per journey. |
|---|---|---|---|
| | No. | £ | d. |
| 1855 | 98,846 | 9,093 | 22·08 |
| 1860 | 551,044 | 45,428 | 19·79 |
| 1865 | 751,587 | 92,984 | 29·69 |
| 1870 | 776,707 | 117,854 | 36·42 |
| 1875 | 1,288,225 | 205,941 | 38·37 |
| 1880 | 5,440,138 | 390,149 | 17·21 |
| 1885 | 13,506,346 | 830,904 | 14·76 |
| 1886 | 14,881,604 | 849,253 | 13·70 |
| 1887 | 14,451,303 | 850,499 | 14·12 |
| 1888 | 15,174,115 | 918,975 | 14·53 |
| 1889 | 16,086,223 | 1,025,601 | 15·30 |
| 1890 | 17,071,945 | 1,059,791 | 14·90 |
| 1891 | 19,037,760 | 1,177,037 | 14·84 |
| 1892 | 19,918,916 | 1,189,231 | 14·33 |
| 1893 | 19,932,703 | 1,115,042 | 13·43 |
| 1894 | 19,265,732 | 1,047,029 | 13·04 |
| 1895 | 19,725,418 | 1,022,901 | 12·45 |
| 1896 | 21,005,048 | 1,043,922 | 11·93 |
| 1897 | 22,672,924 | 1,098,696 | 11·63 |
| 1898 | 23,233,206 | 1,126,257 | 11·63 |
| 1899 | 24,726,067 | 1,155,971 | 11·22 |
| 1900 | 26,486,873 | 1,195,496 | 10·83 |
| 1901 | 29,261,324 | 1,386,489 | 11·37 |

It will be seen that 1900 and 1901 show far larger numbers of passenger journeys than preceding years. But while the number of journeys has been increasing from year to year, there have been less satisfactory results in the way of average receipts per journey. This does

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not so much arise from curtailment of long-distance travelling as from the change of a large body of travellers from first to second class—a result due to diminished means, and doubtless to some extent to the more comfortable carriages now provided for second-class passengers. A return to prosperous times should show an increase in first-class travellers, but it frequently happens that the removal of the original impelling cause is not followed by a return to previous habits, so that the railways may not altogether recover the revenue lost by the change on the part of the travelling public. In 1901 the receipts from first-class passengers, inclusive of season tickets, amounted to £364,554, and from second-class passengers, to £778,876, showing a decrease of £37,666 in respect of the former, and an increase of £93,968 on the latter, as compared with the previous year.

The traffic on the suburban lines, which comprise only distances within 22 miles of Sydney and Newcastle, Liverpool and Morpeth included, has enormously increased of late years. In the following table a comparison is instituted between the traffic for the years ended 30th June, 1888, 1900, and 1901 :—

| Suburban Traffic. | 1888. | 1900. | 1901. |
|---|---|---|---|
| Number of ordinary passengers ..... | 7,413,868 | 12,123,088 | 12,984,699 |
| ,, workmen's journeys ..... | 1,738,284 | 5,550,528 | 5,998,956 |
| ,, season ticket holders' journeys ..... ..... | 3,227,760 | 5,665,428 | 6,506,330 |
| Total passenger journeys ..... | 12,379,912 | 23,339,044 | 25,489,985 |
| Number of miles travelled ..... | 70,172,793 | 137,629,474 | 150,956,272 |
| Average mileage per passenger ..... | 5·67 | 5·90 | 5·93 |
| Amount received from passengers ..... | £186,393 | £285,127 | £315,723 |
| Average receipts per mile, per passenger | 0·64d. | 0·50d. | 0·50d. |

The average receipts from passenger traffic per head of population advanced very rapidly until 1891, when the amount stood at 20s. 11·8d., against 10s. 8·5d. in 1880, and 4s. 9·7d. in 1870. This was not due so much to the increased distance travelled by passengers as to the fact that the railway mileage increased at a greater rate than the population, enabling the public to indulge in a larger measure of railway travelling, in accordance with the well-established rule that the more the facilities for travelling are extended the greater will be the traffic. Subsequently to 1891 the average lessened for a few years, but it now stands at 20s. 3·8d. In this connection it may be interesting to note that the fares charged on the suburban lines, over which the majority of passengers travel, are very much less for both classes of travellers than the English rates, although the cost of working is considerably higher. The receipts

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from passenger traffic per head of the population will be found in the following figures:—

| Year. | Amount per head. | Year. | Amount per head. |
|---|---|---|---|
| | s. d. | | s. d. |
| 1860 | 2 7·8 | 1891 | 20 11·8 |
| 1865 | 4 7·8 | 1892 | 20 5·6 |
| 1870 | 4 9·7 | 1893 | 18 8·5 |
| 1875 | 7 10·2 | 1894 | 17 2·9 |
| 1880 | 10 8·5 | 1895 | 16 6·1 |
| 1885 | 17 11·1 | 1896 | 16 6·5 |
| 1886 | 17 6·2 | 1897 | 17 2·2 |
| 1887 | 16 11·1 | 1898 | 17 3·6 |
| 1888 | 18 0·2 | 1899 | 17 5·7 |
| 1889 | 19 6·2 | 1900 | 17 9·5 |
| 1890 | 19 7·1 | 1901 | 20 3·8 |

## Goods Traffic.

The weight of goods and live stock carried per head of population in New South Wales compares favourably with that of many countries where railways have long been established. The average tonnage for 1860 and subsequent periods was:—

| Year. | Tons. | Year. | Tons. |
|---|---|---|---|
| 1860 | 0·2 | 1891 | 3·4 |
| 1865 | 1·2 | 1892 | 3·7 |
| 1870 | 1·6 | 1893 | 3·2 |
| 1875 | 2·2 | 1894 | 2·9 |
| 1880 | 2·4 | 1895 | 3·3 |
| 1885 | 3·5 | 1896 | 3·1 |
| 1886 | 3·3 | 1897 | 3·6 |
| 1887 | 3·3 | 1898 | 3·6 |
| 1888 | 3·3 | 1899 | 4·0 |
| 1889 | 3·3 | 1900 | 4·1 |
| 1890 | 3·5 | 1901 | 4·7 |

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The largest amount of tonnage per inhabitant is carried in the United States, where it averages 12·7; and the United Kingdom is second, with 10·1 tons. The relative position of New South Wales will be seen from the next table, which shows the tonnage of merchandise carried per head of population in the principal countries of the world :—

| | Tons. | | Tons. |
|---|---|---|---|
| United States | 12·7 | Russia | 0·9 |
| United Kingdom | 10·1 | Portugal | 0·5 |
| Belgium | 7·5 | Japan | 0·3 |
| Germany | 5·6 | Australasia— | |
| Canada | 5·9 | New South Wales | 4·7 |
| Switzerland | 4·3 | Victoria | 2·8 |
| Austria-Hungary | 3·4 | Queensland | 3·1 |
| Sweden | 3·8 | South Australia | 4·5 |
| France | 3·1 | Western Australia | 9·5 |
| Netherlands | 2·2 | Tasmania | 1·8 |
| Norway | 1·2 | New Zealand | 4·3 |

The following figures, which extend as far back as the first opening of the lines, show how greatly the goods traffic has expanded, especially in recent years :—

| Year. | Tonnage of Goods and Live Stock. | Earnings. | Year. | Tonnage of Goods and Live Stock. | Earnings. |
|---|---|---|---|---|---|
| | | £ | | | £ |
| 1855 | 140 | 156 | 1891 | 3,802,849 | 1,797,384 |
| 1860 | 55,394 | 16,841 | 1892 | 4,296,713 | 1,918,065 |
| 1865 | 416,707 | 73,048 | 1893 | 3,773,843 | 1,812,014 |
| 1870 | 766,523 | 189,288 | 1894 | 3,493,919 | 1,766,512 |
| 1875 | 1,171,354 | 408,707 | 1895 | 4,075,093 | 1,855,303 |
| 1880 | 1,712,971 | 770,868 | 1896 | 3,953,575 | 1,776,495 |
| 1885 | 3,273,004 | 1,343,464 | 1897 | 4,567,041 | 1,916,046 |
| 1886 | 3,218,582 | 1,310,817 | 1898 | 4,630,564 | 1,900,491 |
| 1887 | 3,339,253 | 1,357,796 | 1899 | 5,248,320 | 1,989,302 |
| 1888 | 3,399,772 | 1,376,149 | 1900 | 5,531,511 | 1,936,217 |
| 1889 | 3,485,839 | 1,512,876 | 1901 | 6,398,227 | 2,203,249 |
| 1890 | 3,788,950 | 1,573,295 | | | |

In the subjoined statement, which relates to the year ended 30th June, 1901, will be found particulars of the tonnage under nine broad classes, the average distance goods of each class were carried, and the average

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earnings per ton per mile. This last figure, however, does not include the terminal charges, which would probably increase the revenue per ton per mile by about ·20d., or from 1·13d. to 1·33d. The miscellaneous traffic comprises timber, bark, agricultural and vegetable seeds (in 5-ton lots), firewood (in 5-ton lots), bricks, drain-pipes, and goods of a similar nature. The "A and B classes" cover lime, fruit, vegetables, hides, tobacco leaf, lead and silver ore, caustic soda and potash, cement, copper ingots, fat and tallow, mining machinery, ore tailings, leather, agricultural implements in 5-ton lots, and other goods of a similar nature.

| Description of Traffic. | Tons carried. | Average number of miles each ton of traffic is carried. | Earnings per ton per mile. |
|---|---|---|---|
| Coal, coke, and shale | 3,956,033 | 21·70 | 0·53d. |
| Firewood | 218,058 | 27·39 | 0·81d. |
| Grain, flour, etc. | 504,880 | 195·77 | 0·49d. |
| Hay, straw, and chaff | 154,403 | 197·65 | 0·39d. |
| Miscellaneous | 553,527 | 61·92 | 0·70d. |
| Wool | 99,104 | 252·90 | 2·32d. |
| Live stock | 200,339 | 247·04 | 1·58d. |
| "A" and "B" classes | 398,402 | 95·28 | 1·32d. |
| All other goods | 313,481 | 137·89 | 3·24d. |
| | 6,398,227 | 63·26 | 1·13d. |
| Terminal charges | ..... | ..... | 0·20d. |
| Total | 6,398,227 | 63·26 | 1·33d. |

The statement which is given below shows the receipts for carrying goods 1 mile along the lines of the state. The information reaches back to 1872, when the charge was 3·6d., while after an interval of twenty-nine years it has fallen to 1·3d. The decrease, however, is to some extent more apparent than real, inasmuch as it represents a more extensive development of the mineral trade than of the carriage of general merchandise; but when due allowance has been made on this score, it will be found that the benefit to the general producer and consumer has been very substantial:—

| | | |
|---|---|---|
| 1872 ..... 3·6d. | 1881 ..... 2·3d. | 1893 ..... 1·8d. |
| 1873 ..... 3·3d. | 1882 ..... 2·1d. | 1894 ..... 1·8d. |
| 1874 ..... 3·0d. | 1883 ..... 2·0d. | 1895 ..... 1·6d. |
| 1875 ..... 3·1d. | 1884 ..... 1·9d. | 1896 ..... 1·6d. |
| 1876 ..... 2·8d. | 1885 ..... 1·9d. | 1897 ..... 1·6d. |
| 1877 ..... 2·7d. | 1886 ..... 1·8d. | 1898 ..... 1·5d. |
| 1878 ..... 2·4d. | 1887 ..... 1·8d. | 1899–1900... 1·5d. |
| 1879 ..... 2·3d. | 1891 ..... 1·9d. | 1900–1901... 1·3d. |
| 1880 ..... 2·3d. | 1892 ..... 1·8d. | |

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The figures just given should not be too strongly relied upon in comparing one year with another; but they may safely be taken as indicating generally the lessened cost of carriage to persons forwarding goods by rail. The reduction is most noticeable in regard to agricultural produce and live stock.

During the year ended 30th June, 1895, some important reductions were made in the rates for the conveyance of goods and live stock. The rates for cattle were lowered to the scale of charges applicable to sheep, this being practically a reduction of 20 per cent. In March, a general revision of the goods classification was made, by which many articles were placed in lower classes. The rates for coal in the Newcastle district, and from the western mines to Sydney and district, were also slightly reduced. By a revision of the wool tariff, the anomaly of charging higher rates from stations nearer to Sydney and Newcastle than from others at longer distances on the same line, but which are affected by the interior river and other competition, was entirely removed. In April, 1896, a general reclassification of goods came into force, by which numerous articles were reduced to lower classes. Further reductions were made at the same time in the rates for the carriage of agricultural produce over long distances. The rates for agricultural implements forwarded in 5-ton truck loads were reduced by 50 per cent. and for small consignments by 20 per cent. To assist the mining industry, the rates for explosives and mining machinery were also reduced, the latter by 50 per cent.

The introduction of "Starving stock rates" on the Government Railways became necessary during the year 1898-99 on account of the disastrous effects of the drought. These rates permitted a reduction of 50 per cent. on the ordinary charges from the drought-stricken districts to places where feed and water were obtainable. Stock of which a forced sale was made by reason of the necessity for removal to another district for feed, were treated in like manner. Where travelling stock routes could not be used, and store stock required transit by railway, a reduction of 25 per cent. on usual rates was allowed on carriage for distances not less than 100 miles. A similar reduction in the freight of fodder for starving stock was also made. The concessions have been largely availed of, and must have proved of great assistance in facilitating the removal of stock from drought-stricken districts, and thus helped to minimise the great loss in the pastoral industry caused by the severity of the past five years.

The revenue from goods and live stock traffic per head of population rose rapidly from the opening of the lines until the year 1883, when it stood at 30s. 4d., at which figure it remained in 1884. The unfavourable seasons experienced during the subsequent years greatly affected the traffic, and the revenue in 1888 had fallen to 27s. per inhabitant. For a number of years afterwards there was a steady increase, and in 1892 the amount stood at 33s.—the highest figure yet attained; in 1894 this had decreased to 29s. 1d., but in 1895 the amount rose to 29s. 11d.

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In 1896, owing chiefly to the diminished wool traffic, and partly also to the Newcastle strike, the amount fell to 28s. 1d.; in 1897 it rose to 29s. 11d.; but the effect of the drought was noticeable in 1898, when the average per head dropped to 29s. 2d. An improvement was, however, presented in 1899 and 1901, when the average per head rose to 30s. and 32s. 3d. respectively. The results achieved must be regarded as very satisfactory, especially in face of the general reduction in the freights :—

| Year. | Amount. | Year. | Amount. |
|---|---|---|---|
| | £ s. d. | | £ s. d. |
| 1860 | 0 0 11·8 | 1891 | 1 12 0·5 |
| 1865 | 0 3 7·8 | 1892 | 1 13 0·1 |
| 1870 | 0 7 8·7 | 1893 | 1 10 4·9 |
| 1875 | 0 13 11·8 | 1894 | 1 9 1·1 |
| 1880 | 1 1 1·9 | 1895 | 1 9 11·3 |
| 1885 | 1 8 11·7 | 1896 | 1 8 1·8 |
| 1886 | 1 7 0·5 | 1897 | 1 9 11·6 |
| 1887 | 1 7 0·3 | 1898 | 1 9 2·4 |
| 1888 | 1 6 11·7 | 1899 | 1 10 0·8 |
| 1889 | 1 8 9·4 | 1900 | 1 8 9·7 |
| 1890 | 1 9 1·0 | 1901 | 1 12 3·5 |

The rolling stock of the New South Wales railways, on the 30th June, 1901, consisted of 495 engines, 407 tenders, 1,057 coaching stock, 10,043 goods vehicles, and 1,050 stock for departmental use only, making a total of 13,052 stock. These figures represent an increase of 6 engines, 5 tenders, 32 coaching stock, 163 goods vehicles and one departmental vehicle, on the figures for the previous year. The number of engine miles run was 14,493,934, while the train miles numbered only 10,763,697. The fitting of the goods stock with the Westinghouse quick-acting freight brake appliances was practically completed in 1898-9, and much progress was made with the work of interlocking of points and signals, Sykes' system of lock and block being introduced on the busy suburban sections.

During the year ended June, 1901, the wages paid by the Railway Department amounted to £1,340,719 as against £1,242,225 in the previous year. Of the former sum, the Maintenance Branch took £428,466, and the Locomotive Branch £606,946, while the Traffic Branch absorbed £305,307. Additions to stations, buildings, etc., and rolling stock and additional appliances, including continuous brakes, cost £217,833, which was charged to capital account.

Compensation for personal injury was paid during the twelve months to the amount of £7,020, and for damage to and loss of goods, £4,091. The maximum amount recoverable from the Railway Commissioners in connection with injuries sustained by any one person has been limited by the Government Railways Compensation Act, 1896, to £2,000.

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The cost of fuel is, naturally, a large item in the railway accounts. For the last working year the expenditure on coal, coke, and wood totalled £125,155. The fuel consumed on the locomotives amounted to 380,350 tons, or an average of 58·78 lb. per engine mile.

There were altogether 13,119 persons employed on the railways on the 30th June, 1901, of which number 1,372 comprised the salaried staff, and 11,747 were on wages. For the previous year the total number was 11,744, of whom 1,261 were on salary and 10,483 on wages.

The management of the state railways of New South Wales was in the hands of a single Commissioner, under the Secretary for Public Works, up to the month of October, 1888. At that date the service was transferred to the department of the Colonial Treasurer, and the actual administration of the railways was entrusted to three Commissioners, to whom were given very extensive powers, amounting in fact to almost independent control. The change was made with the view of securing economic management of the lines, free from political interference.

## Private Railway Lines.

In New South Wales the established policy has hitherto been to keep the railways under state management and control, and at the present time there are only four private lines in operation, with the exception of short lines to connect coal-mines with the main railways, etc. The Parliament granted permission to a company to construct a line from Deniliquin, in the centre of the Riverina district, to Moama, on the Murray, where it meets the railway system of Victoria. A considerable proportion of the wool and other produce of Riverina reaches the Melbourne market by this route. The line, which was opened in the year 1876, is 45 miles in length, and was constructed under a special Act of Parliament, assented to on the 3rd March, 1874. The land required was granted by the New South Wales Government, right being reserved for the purchase of the line at any time after twenty-one years from the passing of the Act. The total capital expended is £162,672, £40,000 of which was raised by debentures—£30,000 now outstanding—and there is a reserve fund of £15,916. The dividends formerly paid averaged 10 per cent., but the latest dividend declared was at the rate of 4 per cent. per annum. During the year 1888 a line, 35 miles 54 chains in length, was laid down from the Barrier silver-mines, Silverton, and Broken Hill to the South Australian border. The total capital expended is £367,648, of which £80,000 was raised by debentures, and there is a reserve fund of £50,000. The line since its opening has had large support. In 1891 the large dividend of 70 per cent. was declared. The latest dividend declared was at the rate of 40 per cent. on paid-up capital. A short line connects Clyde with the Rosehill Racecourse, and another joins Liverpool with the Warwick Farm



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Racecourse. The following table shows the operations of these lines during the year 1900 :—

| Name. | Line. Length. | Line. Gauge. | Total Capital Expended. | Reserve Fund. | Debentures Outstanding. | Passengers Carried. | Goods Carried. | Live Stock Carried. | Train Miles Run. |
|---|---|---|---|---|---|---|---|---|---|
| | m. ch. | ft. in. | £ | £ | £ | No. | tons. | No. | No. |
| Deniliquin and Moama. | 45 0 | 5 3 | 162,672 | 15,916 | 90,000 | 7,333 | 15,062 | 45,600 | 29,942 |
| Silverton .. .. | 35 54 | 3 6 | 367,648 | 50,000 | Nil. | 48,715 | 665,258 | 7,215 | 173,919 |
| Clyde to Rosehill .. | 3 0 | 4 8½ | 48,000 | Nil. | Nil. | 27,022 | 1,495 | 702 | .. |
| Warwick Farm .. | 0 60 | 4 8½ | 5,700 | .. | .. | 14,917 | Nil. | 562 | .. |

The Deniliquin and Moama Company possesses 4 locomotives, 6 passenger carriages, and 63 goods carriages and vans; and the Silverton Company has 15 locomotives, 15 passenger carriages, and 500 goods vehicles. On the Rosehill and Warwick Farm lines Government rolling-stock is used.

Authority was obtained during 1893 for the construction of a private line from Menindie to Broken Hill, in the Western district.

## Railway Accidents.

The railways of New South Wales have been as free from accidents of a serious character as the lines of most other countries. In order to obtain a common basis of comparison it is usual to find the proportion which the number of persons killed or injured bears to the total passengers carried. There is, however, no necessary connection between the two, for it is obvious that accidents may occur on lines chiefly devoted to goods traffic, and a more reasonable basis would be the accidents to passengers only compared with the number of passengers carried. The data from which such a comparison could be made are wanting for some countries; so far as the figures can be given, however, they are shown in the following table, which exhibits the number of passengers killed and injured per million persons carried. The figures are brought down to the latest possible dates :—

| Countries. | Accidents per million passengers carried. Killed. | Injured. | Countries. | Accidents per million passengers carried. Killed. | Injured. |
|---|---|---|---|---|---|
| Germany ..... | 0·1 | 0·3 | Russia in Europe ... | 1·0 | 3·9 |
| Austria-Hungary ..... | 0·1 | 1·3 | United Kingdom ... | 0·1 | 1·6 |
| Belgium ..... | 0·2 | 3·0 | Spain ..... | 0·6 | 1·8 |
| Sweden ..... | 0·2 | 0·5 | Japan ..... | 0·3 | 3·2 |
| France ..... | 0·2 | 1·2 | Canada ..... ..... | 0·4 | 4·1 |
| Italy ..... ..... | 0·1 | 2·8 | New South Wales ... | 0·3 | 3·0 |
| Norway ..... | 0·1 | 0·1 | Victoria ..... | 0·1 | 2·8 |
| Netherlands ..... | 0·1 | 0·5 | South Australia ..... | 0·1 | 0·7 |
| Switzerland ..... ..... | 0·2 | 1·0 | New Zealand ..... | 0·8 | 2·1 |

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The above mode of comparison is not, however, a perfect one, as the question of the distance travelled by each passenger is an important element of the risk run, and is omitted from consideration. If this were made a factor of the comparative statement, it would probably be found that the risk of each traveller by rail would show less variation in the different countries than would seem to be the case from the figures just given.

The persons meeting with accidents on railway lines may be grouped under three heads—passengers, employees, and trespassers; and the accidents themselves may be classified into those arising from causes beyond the control of the person injured, and those due to misconduct or want of caution. Adopting these classifications, the accidents on the New South Wales Government Railways during the year ended the 30th June, 1901, were as follow :—

| Accidents arising— | Passengers. | | Employees. | | Trespassers, etc. | | Total. | |
|---|---|---|---|---|---|---|---|---|
| | Killed. | Injured. | Killed. | Injured. | Killed. | Injured. | Killed. | Injured. |
| From causes beyond their control ..... | 8 | 42 | 1 | 10 | ... | ... | 9 | 52 |
| Through misconduct or want of caution... | 2 | 45 | 12 | 318 | 23 | 26 | 37 | 389 |
| Total..... | 10 | 87 | 13 | 328 | 23 | 26 | 46 | 441 |

The returns of the railways of the United Kingdom show that during the year 1900 the number of persons killed was 1,250, and of persons injured, 7,353. The passengers killed and injured numbered 135 and 2,426 respectively, or 0·1 and 2·1 per million passengers carried; 583 railway employees were killed, and 4,585 were injured; there were 123 cases of suicide; and the other persons killed and injured were trespassers and persons who were crossing the lines.

In the following statement, particulars regarding accidents on the Government Railways of New South Wales are given for ten years :—

| Year ended 30th June. | Passengers. | | Employees. | | Trespassers, etc. | | Total. | |
|---|---|---|---|---|---|---|---|---|
| | Killed. | Injured | Killed. | Injured | Killed. | Injured | Killed. | Injured. |
| 1892 | 17 | 58 | 26 | 163 | 7 | 7 | 50 | 228 |
| 1893 | 7 | 47 | 10 | 87 | 11 | 5 | 28 | 139 |
| 1894 | 8 | 33 | 7 | 93 | 13 | 18 | 28 | 144 |
| 1895 | 16 | 77 | 17 | 70 | 9 | 13 | 42 | 160 |
| 1896 | 5 | 27 | 9 | 83 | 11 | 8 | 25 | 118 |
| 1897 | 2 | 50 | 8 | 78 | 15 | 7 | 25 | 135 |
| 1898 | 3 | 33 | 9 | 73 | 17 | 6 | 29 | 112 |
| 1899 | 4 | 33 | 7 | 80 | 12 | 7 | 23 | 120 |
| 1900 | 5 | 44 | 18 | 181 | 13 | 30 | 36 | 255 |
| 1901 | 10 | 87 | 13 | 328 | 23 | 26 | 46 | 441 |
| Total ..... | 77 | 489 | 124 | 1,236 | 131 | 127 | 332 | 1,852 |

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## Tramways.

The tramways, like the railways, are the property of the Government, and are under the control of the Commissioners for Railways. There were, in June, 1901, six distinct systems of tramways in operation, consisting of the City and Suburban steam lines, measuring 33 miles 74½ chains; the City and Suburban electric lines, 14 miles 68½ chains; the North Shore electric lines, 11 miles 67½ chains; the King-street to Ocean-street cable tramway, 2 miles 32 chains; the Rose Bay electric line, 2 miles 27 chains; and the Newcastle to Plattsburg Tramway (including Plattsburg, Tighe's Hill, Mayfield, Merewether and Adamstown sections), 13 miles 79½ chains; giving a total of 79 miles 29 chains of lines in use.

The metropolitan steam tramways may fairly be regarded as street railways, and they are worked by locomotives of a special construction. A cable tramway was inaugurated at North Sydney some years ago, but has since been converted into an electric line; and another cable tramway, extending from the heart of Sydney to the suburb of Woollahra, *via* William-street, was completed in 1894, and opened on the 19th September in that year. The electric system was only introduced into the city at the close of 1899, but for some years has been in operation at North Sydney, where a trunk line now runs from Milson's Point to Mosman, with branches to Gore Hill, Willoughby, and Neutral Bay. Towards the close of 1900, a further extension of this system to the waters of Middle Harbour at the Spit was opened for traffic. The electrical system has also been brought into operation in an extension of the cable tram at Woollahra to Rose Bay. An Act was passed in 1896 for the construction of an electric tramway from Circular Quay, along George-street, to the Redfern Railway Station and to the populous district of Pyrmont. This line, known as the George-street–Harris-street tramway, is a double track, and measures in length 3 miles 20 chains. It was opened on the 8th December, 1899. A scheme for the conversion of the whole of the steam tramways in the metropolitan district into an electrical system has been adopted, and provision for the electrical power required has been made at the new works at Ultimo. A vote of £150,000 was granted by Parliament for the purpose of conversion. The lines *via* Newtown to Dulwich Hill and St. Peter's were the only sections converted at the close of the tramway year; but, before the end of 1900, the Glebe and Forest Lodge lines were also worked by electricity. On the other lines to the Western Suburbs the work of conversion was pushed forward. It is expected that it will be completed by June, 1902, and that by that time the transformation of the eastern system will be well advanced. In the City of Sydney, the construction of single lines along Pitt-street and Castlereagh-street, to relieve George-street of portion of the traffic

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between Circular Quay and the Railway Station, has been completed. Within the next few years it is expected that the whole of the tram-cars of Sydney and suburbs will be driven by electricity.

The following table gives some interesting particulars respecting the metropolitan tramways, exclusive of the King-street to Ocean-street cable tramway and the North Shore and Rose Bay electric tramways. In the year 1879 the tramways were open for only three and a half months, and for part of that time were worked by horse-power. The accounts since 1887 have been made up to the 30th June in each year:—

| Year. | Length of Line. | Tram Mileage. | Total Earnings. | Working Expenses. | Earnings per Tram Mile. | Working cost per Tram Mile. | Proportion of working cost to gross earnings. | Net Earnings. | Capital spent on Lines open. | Interest on Capital. |
|---|---|---|---|---|---|---|---|---|---|---|
| | miles. | | £ | £ | d. | d. | d. | £ | £ | per cent |
| 1879 | 1½ | 13,270 | 4,416 | 2,278 | 79·87 | 41·19 | 51·59 | 2,138 | 22,269 | 33·00 |
| 1880 | 4 | 84,074 | 18,980 | 13,444 | 54·18 | 38·38 | 70·83 | 5,536 | 60,218 | 12·34 |
| 1881 | 9½ | 296,906 | 62,549 | 52,107 | 50·56 | 42·12 | 83·31 | 10,442 | 169,450 | 6·16 |
| 1882 | 22 | 670,649 | 126,202 | 103,136 | 45·16 | 36·91 | 81·72 | 23,066 | 412,561 | 6·80 |
| 1883 | 25 | 1,076,696 | 190,699 | 178,877 | 42·53 | 39·89 | 93·80 | 11,822 | 544,105 | 2·22 |
| 1884 | 27½ | 1,242,491 | 219,942 | 215,167 | 42·48 | 41·56 | 97·83 | 4,775 | 643,111 | 0·76 |
| 1885 | 27½ | 1,220,500 | 223,340 | 207,995 | 43·91 | 40·90 | 93·13 | 15,345 | 708,109 | 2·17 |
| 1886 | 27½ | 1,222,943 | 226,367 | 201,737 | 44·42 | 39·59 | 89·12 | 24,630 | 742,113 | 3·32 |
| 1887 | 29½ | 1,220,026 | 214,125 | 201,468 | 42·12 | 39·63 | 94·08 | 12,657 | 731,582 | 1·76 |
| 1888 | 29½ | 1,246,543 | 221,060 | 204,227 | 42·56 | 39·32 | 92·38 | 16,833 | 742,555 | 2·27 |
| 1889 | 29½ | 1,338,386 | 225,833 | 206,092 | 40·49 | 36·95 | 91·25 | 19,741 | 771,255 | 2·56 |
| 1890 | 30½ | 1,474,646 | 249,508 | 207,517 | 40·60 | 36·46 | 83·17 | 41,991 | 790,555 | 5·31 |
| 1891 | 33½ | 1,553,048 | 270,365 | 221,505 | 41·78 | 34·23 | 81·92 | 48,860 | 857,455 | 5·74 |
| 1892 | 37 | 1,613,443 | 279,321 | 229,145 | 41·55 | 34·09 | 82·04 | 50,176 | 932,907 | 5·54 |
| 1893 | 38 | 1,681,232 | 271,041 | 214,824 | 38·69 | 30·67 | 79·26 | 56,217 | 947,775 | 5·94 |
| 1894 | 40½ | 1,737,846 | 250,809 | 206,554 | 34·64 | 28·53 | 82·35 | 44,255 | 954,035 | 4·64 |
| 1895 | 40½ | 1,740,235 | 230,583 | 186,081 | 31·80 | 25·66 | 80·70 | 44,502 | 962,037 | 4·62 |
| 1896 | 40½ | 1,845,626 | 227,525 | 187,811 | 29·50 | 24·42 | 82·54 | 39,714 | 961,778 | 4·13 |
| 1897 | 40½ | 2,121,017 | 238,023 | 195,142 | 26·93 | 22·08 | 81·98 | 42,881 | 963,925 | 4·42 |
| 1898 | 40½ | 2,198,351 | 239,858 | 201,904 | 26·18 | 22·04 | 84·18 | 37,954 | 973,419 | 3·90 |
| 1899 | 40½ | 2,329,751 | 262,045 | 220,193 | 26·99 | 22·68 | 84·03 | 41,852 | 977,107 | 4·28 |
| 1900 | 43½ | 3,106,185 | 315,930 | 268,504 | 24·41 | 20·75 | 84·99 | 47,426 | 1,338,006 | 4·06 |
| 1901 | 48¾ | 5,208,510 | 438,068 | 366,018 | 20·21 | 16·86 | 83·44 | 72,650 | 1,535,958 | 4·77 |

The actual interest on the public debt, allowing for redemption at par is 3·81 per cent.; the tramways, therefore, have for twelve years yielded more than the cost of working and interest. It must, however, be remembered that the State does not set apart any portion of the earnings for renewals, which may hereafter prove a considerable item, as a large part of the rolling stock is new.

The fares paid on the tramways included in the previous table average about 0·55d. per mile, the lines being divided into penny sections of about 1¾ mile. For the whole of the tramways in the Metropolitan area the average length of the sections is about 1½ mile, and the fare per mile 0·635d. Reductions recently made in fares are considerable, and on many lines improved services have been provided. The number of persons using the tram-cars could not be ascertained with any exactness until quite recently, as the tickets collected for separate

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penny and two-penny sections gave only a partial indication of the number travelling. The introduction of a system of through cash fares on all lines has, however, made such a calculation possible. It was found that during the year 1899–1900 no less than 63,543,969 passengers travelled on the tramways in the metropolitan area, while the number for the succeeding twelve months reached 89,799,470. The large increase was partly due to the Commonwealth celebrations in January, 1901, and to the visit of T.R.H. the Duke and Duchess of Cornwall and York, but more particularly to the popularity of the electric system and the penny sections.

The following table shows the total and average cost of the various sections of the tramways open on the 30th June, 1901 :—

| Section. | Motive Power. | Length. | Total Cost. | Cost per mile. |
|---|---|---|---|---|
| | | ms. chs. | £ | £ |
| Railway to Bridge-street | Steam and Electric. | 1 53 | 104,650 | 62,947 |
| Randwick and Coogee | Steam .. | 5 33 | 116,811 | 21,682 |
| Waverley and Bondi | ,, .. | 5 55 | 101,640 | 17,871 |
| Waverley to Randwick | ,, .. | 1 18 | 11,181 | 9,127 |
| Crown-street | ,, .. | 0 70 | 20,165 | 23,046 |
| Railway to Glebe and Forest Lodge | Steam and Electric. | 2 28 | 46,660 | 19,855 |
| Forest Lodge to Balmain | Steam .. | 2 66 | 46,018 | 16,289 |
| Newtown to Dulwich Hill | Electric .. | 4 11 | 121,272 | 29,310 |
| Forest Lodge Junction to Leichhardt, Five Dock, and Abbotsford. | Steam and Electric. | 6 57 | 67,317 | 10,089 |
| Railway to Botany | Steam .. | 6 65 | 91,543 | 13,438 |
| Newtown to St. Peter's and Cook's River | Electric .. | 2 57½ | 31,437 | 11,563 |
| Redfern to Moore Park | Steam .. | 1 26 | 19,475 | 14,698 |
| Ocean-street | Cable .. | 2 32 | 141,197 | 58,832 |
| Rose Bay and Dover-road | Electric .. | 2 27 | 22,434 | 9,597 |
| North Shore Lines | ,, .. | 11 67½ | 196,534 | 16,594 |
| George and Harris streets | ,, .. | 3 36 | 149,910 | 43,452 |
| Newcastle Lines | Steam .. | 13 79½ | 121,606 | 8,690 |
| Kensington Line to Rifle Range | ,, .. | 2 68 | 25,267 | 8,806 |
| Randwick Racecourse Loop | ,, .. | 0 59½ | 6,505 | 8,746 |
| Cost of Construction | ..... | 79 29 | 1,441,622 | 18,191 |
| Equipment :— £ | | | | |
| Rolling stock 476,615 | | | | |
| Ultimo Power House and Plant 147,163 | | | | |
| Machinery 67,526 | | | | |
| Workshops 59,175 | | | | |
| Furniture 2,392 | | | | |
| | ..... | .... | 752,871 | ..... |
| Total or average | ..... | 79 29 | 2,194,493 | 27,691 |

The North Shore electric lines yielded a revenue of £33,465; and the working expenditure totalled £30,121. The amount left to meet interest charges was, therefore, £3,344. The number of passengers was 6,420,420. The cost of construction and equipment amounted to £260,870.

On the King-street to Ocean-street cable tramway the receipts amounted to £42,225, and the working expenses were £34,321, leaving a net return of £7,904, or 4·11 per cent. upon £192,468, the total cost of construction The number of passengers was 7,816,616.

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The Rose Bay electric line showed a profit of £210 for the year, the revenue amounting to £5,144, while the working expenses were £4,934. The cost of construction and equipment was £37,204 ; consequently the net return was 0·56 per cent. thereon. The number of passengers was 896,690.

The Newcastle to Plattsburg tramway line and contingent sections showed a gross revenue of £32,172, while the working expenses totalled £27,077, leaving the net receipts at £5,095. The cost of construction and equipment was £167,993 ; so that the net return was 3·03 per cent. upon the capital invested. The number of passengers was 3,904,215.

In the following table are given the revenue and expenditure on, and the capital invested in, all state tramways since their inception in 1879. The lines from Camden to Campbelltown, from Kogarah to Sans Souci, and from Ashfield to Enfield, formerly classed as tramways, are now placed amongst the railways. The net earnings of the tramways for the last five years amounted to 3·86 per cent. on cost of construction which compares well with 3·81, the actual interest on the Public Debt.

| Year. | Total Length of Lines. | Capital Expended on Lines open for Traffic. | Gross Revenue. | Working Expenses. | Net Earnings. |
|---|---|---|---|---|---|
| | Miles. | £ | £ | £ | £ |
| 1879 | 1½ | 22,061 | 4,416 | 2,278 | 2,138 |
| 1880 | 4½ | 60,218 | 18,980 | 13,444 | 5,536 |
| 1881 | 11½ | 181,659 | 62,549 | 52,107 | 10,442 |
| 1882 | 29½ | 447,939 | 128,354 | 120,181 | 8,173 |
| 1883 | 32½ | 579,429 | 193,929 | 183,218 | 10,711 |
| 1884 | 35 | 663,179 | 223,454 | 215,086 | 8,368 |
| 1885 | 35 | 746,566 | 227,144 | 207,898 | 19,246 |
| 1886 | 36½ | 854,269 | 234,143 | 207,635 | 26,508 |
| 1887 | 51 | 917,995 | 229,772 | 211,722 | 18,050 |
| 1888 | 42½ | 907,957 | 241,838 | 217,629 | 24,209 |
| 1889 | 38½ | 909,595 | 243,563 | 221,835 | 21,728 |
| 1890 | 39½ | 933,614 | 268,962 | 224,073 | 44,889 |
| 1891 | 42½ | 1,004,212 | 292,850 | 239,679 | 53,171 |
| 1892 | 48 | 1,099,659 | 305,090 | 248,591 | 56,499 |
| 1893 | 49 | 1,118,471 | 296,367 | 233,808 | 61,559 |
| 1894 | 58½ | 1,248,986 | 278,194 | 229,283 | 48,911 |
| 1895 | 61 | 1,423,518 | 282,316 | 230,993 | 51,323 |
| 1896 | 61 | 1,434,996 | 289,181 | 236,283 | 52,898 |
| 1897 | 62½ | 1,452,670 | 306,695 | 248,881 | 57,814 |
| 1898 | 65 | 1,478,251 | 313,871 | 259,141 | 54,730 |
| 1899 | 66½ | 1,516,343 | 348,556 | 288,022 | 60,534 |
| 1900 | 71½ | 1,924,720 | 409,724 | 341,127 | 68,597 |
| 1901 | 79½ | 2,194,498 | 551,674 | 462,471 | 89,203 |

The tramway rolling-stock on the 30th June, 1901, consisted of 106 motors, 136 steam cars, 33 grip and 33 trail cars for cable lines,

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270 motors and 67 trail cars for electric lines, and 24 trucks. The tram mileage during the year was 6,835,926, being an increase of 2,480,902 miles over that of the year ended June, 1900.

During the year ended June, 1901, the total amount of wages paid by the Tramway Department was £334,106, as against £235,548 in the previous year. Of the sum of £334,106, £63,356 was paid to the Maintenance Branch, £105,925 to the Locomotive Branch, £38,888 to the Electric Branch, and £125,937 to the Traffic Branch. The number of men employed was 3,131, as against 2,343 in the previous year. The salaried staff numbered 86, and 3,045 were receiving wages. Taking railways and tramways together, the number of persons employed was 16,250, of whom 1,458 were on the salaried staff, and 14,792 were on wages. To the latter the sum of £1,674,825 was paid as wages during the year, being £1,340,719 for services on the railways, and £334,106, for the performance of work on the tramways. In the preceding year the wages were—Railways, £1,242,225 ; tramways, £235,548 ; total, £1,477,773. The average number of working days for the workshop staff for the year ended June, 1901, was 311, being the same as for the previous year ; and the receipts per man on the wages staff—railways and tramways—averaged £113 4s. 6d. for the twelve months.

Any statement as to the number of persons injured on the tramways in years prior to 1899–1900, compared with the total number of persons carried, has to be taken as approximate, as the latter was not definitely known. A record of the accidents which occurred during the year ended 30th June, 1900, shows them to have been 228 in number, of which 26 were fatal, and 202 were cases of injury. There were 11 fatal and 105 non-fatal accidents to passengers. One servant of the Department was killed and 54 were injured. Fifty-seven accidents in connection with trams occurred to persons who were neither passengers nor employees, 14 of which were fatal, and 43 non-fatal. The total number of accidents during the following twelve months was 216, 25 persons having been killed and 191 injured. In eight of the 25 cases passengers were the sufferers ; in the other 17 cases the persons killed were neither passengers nor employees. Of the 191 persons injured, 75 were passengers, and 77 were employees.

The number of passengers carried on the tramways during the year ended 30th June, 1901, was 93,703,685, which would give the rate of fatal accidents to passengers as 0·085 per million. Seeing that the tramways for a great part of their course traverse crowded streets, the number of fatal and non-fatal accidents during a number of years prior to 1899–1900 to persons who were neither passengers nor employees must be considered very small. The subsequent increase in the number is ascribed chiefly to the very heavy traffic on the George-street line.

The amount of compensation paid during the twelve months ended 30th June, 1901, in respect of accidents on the tramways was £13,970 as compared with £3,174 for the preceding year.

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The accidents which have occurred on the Government tramways during the last ten years have been classified on the subjoined table.

| Year ended 30th June. | Passengers. | | Employees. | | Trespassers, etc. | | Total. | |
|---|---|---|---|---|---|---|---|---|
| | Killed. | Injured. | Killed. | Injured. | Killed. | Injured. | Killed. | Injured. |
| 1892 | Nil | 14 | 2 | 2 | 3 | 14 | 5 | 30 |
| 1893 | Nil | 10 | 1 | Nil | 3 | 8 | 4 | 18 |
| 1894 | 2 | 2 | 1 | 2 | 4 | 5 | 7 | 9 |
| 1895 | 1 | 8 | Nil | 4 | 4 | 9 | 5 | 21 |
| 1896 | 2 | 11 | 1 | 7 | 6 | 4 | 9 | 22 |
| 1897 | 1 | 2 | 1 | Nil | 7 | 7 | 9 | 9 |
| 1898 | 2 | 2 | 2 | Nil | 5 | 4 | 9 | 6 |
| 1899 | 6 | Nil | Nil | 1 | 1 | 2 | 7 | 3 |
| 1900 | 11 | 105 | 1 | 54 | 14 | 43 | 26 | 202 |
| 1901 | 8 | 75 | Nil | 77 | 17 | 39 | 25 | 191 |
| Total | 33 | 229 | 9 | 147 | 64 | 135 | 106 | 511 |

## Private Tramways.

There are two steam tramways under private control within the Metropolitan area. One of these branches from the Illawarra Line at Rockdale and runs to Lady Robinson's Beach, a distance of 1 mile, being chiefly used by excursionists visiting the shores of Botany Bay. The line was constructed in 1885. The second line passes through the township of Parramatta. It commences at the Park Gates, and continues as far as the Newington Wharf at Duck River, a distance of 3 miles, where it connects with the Parramatta River steamers conveying passengers and goods to and from Sydney. The line was laid down in 1883. A private steam tramway 2¾ miles in length was opened in 1891 from Fassifern to Toronto, on Lake Macquarie.

A private line was some time ago constructed at North Sydney for the purpose of connecting the tramway on the heights of St. Leonards with the village of Gordon. On this line a magnificent suspension bridge has been built. It is designed in three spans—one of 500 ft., and two end spans each of 150 ft., with an altitude of 180 ft. above water level. The tramway was, however, not quite completed, and has never been opened for traffic.

## Omnibuses, Cabs, and Waggonettes.

In addition to the Government tramways, the citizens of Sydney are well provided with means of travelling within the city and suburban limits, as there are numerous omnibus and cab proprietaries. The public traffic, with the exception of the tramway system, was, until the year 1900, controlled by four Transit Commissioners, comprising the Mayor

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of Sydney, the Inspector-General of Police, a representative elected by the aldermen of suburban municipalities, and one by the holders of licenses under the Commissioners. An Act of Parliament passed in 1900 abolished the Transit Commission, and placed the control of the traffic in the hands of the Inspector-General of Police. The traffic employs a little over 5,000 horses and, including the licensed drivers, some 3,300 men.

The number of cabs registered and licensed is 1,019, in addition to which there are 352 omnibuses, and 498 drays and vans. The public interest is secured against exaggerated demands on the part of licensed cabmen and other drivers of public vehicles by a system of fares fixed on a scale liberal to the licensee, whilst not too high for the public to fairly pay. The drivers are placed under the direct control of the Inspector-General of Police, who has power to obtain redress from the owners of the vehicles should any just complaints be made against them.

The following table shows the number of vehicles of each class licensed during the year 1900, and the number of registered drivers :—

| Description. | Vehicles. | | Drivers, etc. | |
|---|---|---|---|---|
| | Number. | License Fees. | Number. | License Fees. |
| | | £ | | £ |
| Omnibuses ..... | 352 | 1,376 | *583 | 146 |
| Cabs ..... | 1,019 | 992 | 1,167 | 292 |
| Drays and vans ..... | 498 | 472 | 502 | 126 |
| Total..... | 1,869 | 2,840 | 2,252 | 564 |

* Includes 46 conductors.

## Posts and Telegraphs.

In the matter of postal and telegraphic communication the state of New South Wales is liberally provided for. Not only is the inter-state telegraphic system fairly perfect, but New South Wales is in direct communication with Europe and the outer world by means of the cables connecting with the various Asiatic continental telegraph lines. A submarine cable also connects the state with New Zealand, and has its Australian terminus within sight of the spot where Captain Cook landed on the shores of Botany Bay, and within a stone's throw of the monument erected to the memory of La Pérouse—the unfortunate and gallant emulator of the great English navigator—and the tomb of Père Le Receveur, the botanist attached to his staff.

The history of the Postal Department of New South Wales is interesting as affording a striking illustration of the manner in which very small beginnings have led to great results. For the first twenty-three years of the state's existence there were neither regular post-offices nor

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means of postal communication. The first post-office was established by Governor Macquarie in the year 1810, Mr. Isaac Nichols being appointed Postmaster. The office was in High-street (now known as George-street), at the residence of Mr. Nichols, who was, "in consideration of the trouble and expense attendant upon this duty," allowed to charge, on delivery to the addressee, 8d. for every English or foreign letter of whatever weight, and for every parcel weighing not more than 20 lb., 1s. 6d., and exceeding that weight, 3s. The charge on Australian letters was 4d., irrespective of weight; and soldiers' letters, or those addressed to their wives, were charged 1d. Very little improvement in regard to postal matters took place for some years. In 1825 an Act was passed by Sir Thomas Brisbane, with the advice of the Council, "to regulate the postage of letters in New South Wales," giving power for the establishment of post-offices, and for the fixing of rates of postage. A proclamation was subsequently issued, fixing the rates of postage and the salaries and allowances of the postmasters; and at the same time persons were invited to tender for the conveyance of mails between Sydney and Parramatta, Windsor and Liverpool; between Liverpool and Campbelltown; and from Parramatta to Emu Plains, and thence to Bathurst. It was, however, not until 1828 that the provisions of the Act were put into full force. The rates of postage appear to have depended upon the distance and the difficulty of transmission. The lowest single inland rate was 3d., and the highest 12d., the postage on a letter increasing according to its weight, and the minimum fee being charged on letters not exceeding ¼ ounce. Letters between New South Wales and Van Diemen's Land were charged 3d. each (ship rate), and newspapers 1d. Other ship letters were charged 4d. single rate, and 6d. for any weight in excess. The privilege of franking was allowed to the Governor and a number of the chief public officials, and letters to and from prisoners passed free under certain regulations. In 1828 the total amount of salaries paid to the country postmasters was £34 7s. 9d., and the establishment in Sydney consisted of one principal postmaster, one clerk, and one letter-carrier. A letter-carrier was subsequently appointed for Parramatta, and he was authorised to charge the public 1d. on every letter delivered by him, which was his only remuneration. In 1831 a twopenny post was established in Sydney; and in 1835, under Sir Richard Bourke, the Act of 1825 was repealed, and another Act passed, which fixed the charge on a single letter at 4d. for 15 miles, 5d. for 20 miles, 6d. for 30 miles, and so on up to 1s. for 300 miles. In 1837 a post-office was established in Melbourne, which was then, of course, a part of New South Wales. Stamps were introduced in the same year in the shape of stamped covers or envelopes, which are believed to have been the first postage stamps ever issued.

In the year 1838 the Sydney establishment had grown until it consisted of one postmaster-general, one accountant, six clerks, six letter-carriers, and one office-keeper, or fifteen persons in all. The revenue for

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that year was £8,390, and the expenditure was £10,357; there were as many as forty post-offices throughout the state, which then included what are now known as Victoria and Queensland, besides which, as New Zealand was not a separate colony until 1841, the only post-office she had—at Kororareka—was paid through the New South Wales Government. An overland mail to Adelaide was established in 1847, the postage on a single letter being 1s. 6d. The Postal Act was amended again in 1849, during the government of Sir Charles Fitzroy, when the postage on town letters was fixed at 1d., and on inland letters at 2d., while the postage on ship letters was 3d. in addition to the inland rate. The use of postage stamps in the present form was authorised, and the privilege of franking was abolished, petitions to the Queen, the Governor, and the Executive and Legislative Councils being the only communications allowed to pass free through the post.

From the discovery of gold in the year 1851 the history of the post-office has been one of progress and improvement. The Postmaster-General was originally a non-political officer, as the Registrar-General and the Auditor-General are at present. In the year 1855—the first for which an annual report was laid before Parliament—there were in the state altogether 155 post-offices. The head office was in George-street, on the same site as the present edifice, but the structure was small and inconvenient, notwithstanding its Doric columns and pediment in front. There were no electric telegraphs in the state at that time, and the arrival of vessels at the Heads was signalled to the Observatory by means of flags and semaphores. It was in September, 1855, that the first railway was opened in New South Wales, and prior to that time the Southern and Western mails used to leave the General Post Office in old-fashioned mail-coaches every evening. During that year the total number of miles travelled by the postal contractors, by coach and on horseback, was 1,023,255. The number of letters passing through the Post Office was 2,114,179, of which 617,041 are described as "foreign," or, in other words, were addressed to places beyond the state. The number of newspapers was 2,100,989, of which 1,281,613 were inland, and 819,376 were "foreign." Book parcels and packets were not reckoned separately, but were counted as letters. Ten petitions to the Governor or the Council were conveyed free during the year. The revenue of the Department for 1855 was £24,902, and the expenditure was £60,221, while the staff numbered 223 persons in all, of whom 56 were attached to the office in Sydney. The annual report states, with something akin to pride, that communication with Victoria was effected not less than three times a week.

The first iron pillar letter-receivers in Sydney were erected in 1856. During the same year 22 miles of railway were utilised for postal purposes, and 16½ miles were added in the following year. The number of letters delivered in Sydney in 1856 was 1,336,032, and in the country 1,481,416, being an average of about 10½ to every person in the community. There were 86,914 registered letters in 1857, and 7,873 oz.

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of gold were sent through the post that year, as against 23,712 oz. in the previous year. The postal revenue in the year 1857 amounted to £35,716, of which £34,031 was derived from the sale of stamps. The expenditure amounted to £63,865, out of which sum the conveyance of mails in the state absorbed £41,324, without reckoning £20,000 towards the subsidy for the conveyance of English mails. In his report for 1857 the Postmaster-General was obliged to admit that the mail contract for the conveyance of mails between Australia and the United Kingdom had proved "an utter failure, so far as the stipulated time-table might be taken as a criterion." Only 10 monthly mail-steamers arrived that year, and but one to contract time; while only 11 were despatched. The time allowed was 58 days from Southampton to Sydney, and 56 days from Sydney to Southampton. In 1900 there were 1,668 post-offices in New South Wales, besides 521 receiving offices and 3 travelling post-offices. The postal lines for that year extended over 36,294 miles, on which the mails were conveyed 2,816 miles by rail and tram, 979 miles by steamer, 22,703 miles by coach, and 9,796 miles on horseback. The number of miles actually travelled by the mails was 11,925,600, being an increase of 287,100 over the mileage of the previous year.

But while the number of miles travelled by the mails in 1900 was nearly twelve times the mileage travelled in 1855, the number of letters passing through the Post Office during the same period had increased more than 36 times, and the number of newspapers over 24 times. In 1900 the number of ordinary and registered letters was 77,361,604, of which 69,934,520 were posted within the state, or about 52 per head for every individual of the population. The number of newspapers was 51,500,920, of which the number posted in the state was 47,014,100, or about 35 per head. Packets and book parcels numbered 13,846,737, of which 12,586,088 were posted within the state, or about 9 per head; while in 1858, the first year in which they were enumerated separately, there were only 68,564 packets and parcels. Post cards were first introduced in 1876, when the number sent was 128,786; in 1900 no less than 1,473,410 passed through the Post Office, of which 1,395,260 were posted within the state.

Double cards, which may be closed against inspection, and which are designated letter cards, were made available for the use of the public on the 1st July, 1894, the rate charged being 1½d. each. These cards may be transmitted within the state, as well as to Victoria, Queensland, South Australia, Western Australia, Tasmania, New Zealand, Fiji, and British New Guinea. The number carried up to the end of 1894 was 142,400, while 11,300 were received, making the total which passed through the post office 153,700. In 1900 the number posted was 746,760, and received 20,920, making a total of 767,680 passing through the office.

A parcels' post, for inland and inter-state transmission, was inaugurated on 1st October, 1893, the maximum weight being fixed at 3 lb. and

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11 lb., according to mode of conveyance. The number of parcels carried under this system up to the close of that year was 44,265; while during 1894 there were 349,218 parcels carried. Under the foreign system, which has been in force since August, 1886, 19,437 parcels were carried in 1893; and in the following year, 18,672. In 1900 the total number of parcels carried was 711,717, of which 577,912 were inland, 94,574 inter-state, and 39,231 foreign.

The progress made in regard to the means of postal communication with the United Kingdom and the continents of Europe and America is also marvellous. Instead of the unsatisfactory ocean mail service of 1857, which nominally brought monthly mails, with news 58 days old, there are now four great lines of ocean steamships, which bring mails *via* the Suez Canal at least once a week, the time occupied in the conveyance of the mails averaging 35 days. In addition, there is another mail service *via* San Francisco, which averages 32 days in transit between London and Sydney, and arrives and departs tri-weekly; also a monthly service *via* Vancouver, by which mails are sent from Sydney to London in about 38 days. There is also a steam service with London *via* Torres Straits, and advantage is taken of these vessels to send mail matter. This route, however, is but little used by New South Wales. The following table shows, as far as possible, the average time and the quickest time occupied in the transmission of letters by various routes between London and Sydney during 1900:—

| Service. | London to Sydney. | | Sydney to London. | |
|---|---|---|---|---|
| | Average Time. | Quickest Time. | Average Time. | Quickest Time. |
| | days. | days. | days. | days. |
| Per Peninsular and Oriental S. N. Co., *via* Colombo and Brindisi | $32\frac{9}{13}$ | 32 | $32\frac{1}{2}$ | 32 |
| ,, Orient S. N. Co., *via* Suez and Naples | $33\frac{7}{26}$ | 32 | $33\frac{1.3}{1.3}$ | 32 |
| ,, Union S.S. Co., *via* San Francisco | $36\frac{4}{13}$ | 35 | $36\frac{1}{13}$ | 35 |
| ,, Messageries Maritimes, *via* Marseilles | ... | ... | $33\frac{4}{13}$ | 32 |
| ,, Nord-Deutscher Lloyd, *via* Genoa | ... | ... | $36\frac{1}{2}$ | 33 |
| ,, Canadian-Australian, *via* Vancouver | $37\frac{4}{13}$ | 37 | $38\frac{1}{13}$ | 36 |
| ,, Oceanic S.S. Co., *via* San Francisco | 32 | 32 | 32 | 31 |

Regular steam communication with England was first established in 1852. Prior to that time the state had to depend upon the irregular arrival and despatch of sailing vessels, but in that year the steamships Australia, Chusan, and Great Britain were despatched from England, making the voyage in 60 days, and causing a strong desire in the minds of the colonists for a more frequent and steady system of communication with the Old World. The outbreak of the Crimean War in 1854 hindered the accomplishment of this object for a while,

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but in 1856 a line of steamers was again started, and the service was carried on by the Peninsular and Oriental Company and the Royal Mail Company for some years, without, however, giving so much satisfaction to the public as might have been expected.

As far back as 1854 a proposal was made for the establishment of a line of mail packets *via* Panama, and negotiations on the subject were carried on for several years between the British Government and the Governments of New South Wales and New Zealand. The result was that in 1866 the line was started, and continued in operation until the end of 1868, when it was terminated through the failure of the company by which it had been carried out. In the following year this state, in conjunction with New Zealand, inaugurated a mail service *via* San Francisco, which, with a few interruptions and under various conditions, has been continued up to the present time. The contract expired in November, 1890, and was renewed from year to year until 1900. Since the latter year, subsidies have been paid only by New Zealand and the United States.

The establishment of a mail route *via* America had the effect of stimulating the steamship owners who were engaged in the service *via* Suez, and from that time there was a marked improvement in the steamers laid on, as well as in the punctuality and speed with which the mails were delivered. The Peninsular and Oriental Company have, with very few interruptions, carried mails for the Australian States almost from the inception of the ocean steam service. Towards the end of 1878 the Orient Company commenced carrying mails between Australia and the United Kingdom, and has continued to do so ever since. More recently the steamers of the Messageries Maritimes of France and the North German Lloyd have entered the service between Europe and Australia.

During 1893 direct communication was established between Sydney and Vancouver, British Columbia, the New South Wales Government undertaking to pay an annual subsidy of £10,000 for the maintenance of this service for a period of three years. In May, 1896, this agreement was renewed for a further period of three years. The agreement was afterwards renewed for a further period of four years on similar terms and conditions, except that the route was *via* Brisbane instead of Wellington. Contracts were made in 1895 by the Imperial Government with the Peninsular and Oriental and the Orient Companies for the extension of the mail service until the 31st January, 1898; and in the beginning of 1897 a new contract was made, determinable on the 31st January, 1905, to take effect from 1st February, 1898, the maximum time for delivery of the mails between Sydney and London being reduced. The mails of New South Wales are now carried by six lines of steamers, four going by way of Suez, one *via* San Francisco, and one *via* Vancouver. One or two mails are received and despatched every week. The French and the German steamship companies do not receive subsidies from the Government of New South Wales.

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The amount paid by each contributing state, on the basis of population, towards the cost of the Federal Ocean Mail Service *via* Suez, for the year 1900, was as follows:—

| | £ | s. | d. |
|---|---|---|---|
| New South Wales | 26,102 | 5 | 0 |
| Victoria | 22,534 | 3 | 4 |
| Queensland | 9,364 | 13 | 4 |
| South Australia | 7,170 | 0 | 0 |
| Tasmania | 3,521 | 15 | 0 |
| Western Australia | 3,307 | 3 | 4 |
| Total Commonwealth | £72,000 | 0 | 0 |

The contribution from the United Kingdom was £98,000, making £170,000—the total amount paid to the two steamship companies.

The approximate net cost to New South Wales of the Federal Ocean Mail Service *via* Suez, the San Francisco Service, and the Vancouver Service, for the years 1895 to 1900, may be gathered from the following statement:—

| Service. | Estimated Net Cost. | | | | | |
|---|---|---|---|---|---|---|
| | 1895. | 1896. | 1897. | 1898. | 1899. | 1900. |
| | £ | £ | £ | £ | £ | £ |
| Suez (per Peninsular and Oriental and Orient Companies) | 12,438 | 10,510 | 8,686 | 5,936 | 5,162 | 4,966 |
| San Francisco (per Union S.S. Co. of New Zealand, Ltd.) | 2,123 | 1,645 | 1,935 | 1,985 | 1,803 | 1,188 |
| Vancouver (per Canadian-Australian Line) | 9,041 | 7,717 | 8,780 | 7,345 | 7,465 | 7,619 |

The contract with the Union Company expired in October, 1900; but the vessels of the Oceanic S.S. Co. now carry on a tri-weekly service. A monthly service for transport of mails between Sydney, Lord Howe Island, Norfolk Island, the New Hebrides, Santa Cruz, and the Solomon Islands, with an extension from the New Hebrides to the Gilbert and Ellice Groups, every four months, is provided by the Burns, Philp, Co. For these services the company receives a subsidy of £6,000.

In the year 1865 the office of Postmaster-General was made a political one, at first without, and subsequently with, a seat in the Cabinet. The old Post-office building in George-street was found so small and inconvenient that it was resolved to build a larger and more commodious edifice on the same site, and in 1863 the business of the department was removed to a temporary wooden building in Wynyard-square. It was not until 1873 that the construction of the new building was sufficiently advanced to allow of the officers removing from the crowded and ill-ventilated structure in Wynyard-square, where they had carried on their business under great disadvantages and difficulties, to the present palatial structure, which is in every respect a credit to the state. The head-quarters of the Electric Telegraph Department, the Money Order and Postal Note Office, and the Post-office Savings Bank are in the same building, so that the Postmaster-General has around him all

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the various branches over which he presides. The table given below shows the operations of the Post-office in five-year periods from 1855 to 1885, and annually since that date to the end of 1900. For 1885 and succeeding years, the number of persons employed and the income and expenditure refer to the Department as a whole; prior to that year the figures refer to the Post Office only. Also, from 1885 the income is exclusive of interest on Savings Bank investments, and interest due on uninvested Savings Bank balances in the Treasury; and the expenditure is exclusive of interest allowed to Savings Bank depositors :—

| Year. | Post Offices. | Receiving Offices. | Persons employed in the Department. | Extent of Postal Lines. | | | | Distance actually travelled. | Cost of conveyance of mails, Foreign and Inland. | Income. | Approximate expenditure. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Railway, Tramway, and steamer. | Coach. | Horse. | Total. | | | | |
| | No. | No. | No. | miles. | miles. | miles. | miles. | miles. | £ | £ | £ |
| 1855 | 155 | 8 | 223 | * | * | * | * | 1,023,255 | 45,412 | 24,902 | 66,227 |
| 1860 | 289 | * | 289 | 61 | 1,757 | 6,413 | 8,231 | 1,461,518 | 44,303 | 45,613 | 71,391 |
| 1865 | 435 | * | 513 | 141 | 2,528 | 9,323 | 11,992 | 2,521,212 | 49,840 | 70,985 | 83,659 |
| 1870 | 562 | * | 690 | 339 | 3,865 | 10,038 | 14,242 | 3,062,458 | 48,649 | 84,441 | 86,722 |
| 1875 | 752 | 7 | 967 | 435 | 5,407 | 11,829 | 17,671 | 3,787,757 | 138,912 | 107,761 | 196,368 |
| 1880 | 927 | 119 | 1,536 | 891 | 8,717 | 12,819 | 22,427 | 5,246,373 | 174,238 | 194,084 | 268,128 |
| 1885 | 1,115 | 202 | 3,205 | 1,797 | 11,736 | 13,150 | 26,683 | 6,021,996 | 226,105 | 485,489 | 573,617 |
| 1886 | 1,157 | 217 | 3,168 | 1,948 | 12,540 | 12,606 | 27,094 | 6,891,200 | 233,723 | 503,646 | 603,784 |
| 1887 | 1,167 | 263 | 3,227 | 2,074 | 13,305 | 12,135 | 27,514 | 7,015,600 | 264,886 | 521,564 | 627,151 |
| 1888 | 1,203 | 288 | 3,387 | 2,219 | 14,411 | 11,530 | 28,160 | 7,144,500 | 248,403 | 570,800 | 613,566 |
| 1889 | 1,261 | 305 | 3,676 | 2,263 | 14,914 | 11,541 | 28,718 | 7,299,400 | 212,725 | 598,394 | 618,852 |
| 1890 | 1,338 | 325 | 3,821 | 2,273 | 15,774 | 11,547 | 29,594 | 7,463,000 | 231,467 | 637,975 | 677,216 |
| 1891 | 1,384 | 344 | 4,070 | 3,085 | 16,370 | 11,802 | 31,257 | 8,235,000 | 207,357 | 661,608 | 687,226 |
| 1892 | 1,423 | 377 | 4,478 | 3,217 | 17,467 | 11,616 | 32,300 | 8,568,700 | 210,426 | 652,288 | 740,118 |
| 1893 | 1,423 | 404 | 4,845 | 3,412 | 18,380 | 11,000 | 32,792 | 8,784,600 | 209,792 | 643,589 | 783,500 |
| 1894 | 1,445 | 450 | 4,982 | 3,473 | 19,331 | 10,260 | 33,064 | 8,840,000 | 214,670 | 626,864 | 763,976 |
| 1895 | 1,470 | 502 | 5,063 | 3,473 | 19,545 | 10,675 | 33,693 | 9,338,000 | 210,354 | 648,852 | 763,250 |
| 1896 | 1,503 | 503 | 4,814 | 3,516 | 20,309 | 10,258 | 34,083 | 9,773,000 | 208,619 | 695,627 | 743,841 |
| 1897 | 1,536 | 510 | 4,936 | 3,579 | 20,472 | 10,393 | 34,444 | 10,333,500 | 212,150 | 713,700 | 713,015 |
| 1898 | 1,578 | 520 | 5,046 | 3,644 | 21,214 | 10,103 | 34,961 | 11,003,500 | 209,413 | 761,248 | 715,068 |
| 1899 | 1,626 | 526 | 5,251 | 3,673 | 21,832 | 10,235 | 35,740 | 11,638,500 | 210,981 | 789,657 | 734,548 |
| 1900 | 1,668 | 521 | 5,516 | 3,795 | 22,703 | 9,796 | 36,294 | 11,925,000 | 213,924 | 831,340 | 764,227 |

* Not recorded.

It will be noticed that, until 1897, the Postal Department was carried on at a considerable annual loss to the state. This was due in a great measure to the wide area over which the population of the country is scattered, necessitating a proportionately large expenditure for the carriage of mails, and also to the fact that newspapers, which form the bulk of the mail matter, are carried free. But it has always been held that the safe and regular despatch and delivery of the mails is an item of too much importance in the political, commercial, and social life of the state to be neglected, even though it should entail a heavy charge upon the general revenue.

The revenue of the department for 1900 included the following amounts :—Postage (less £24,000 approximate value of postage stamps used as duty stamps), £542,844; electric telegraphs, £176,548; telephones, £70,877; money order commission, £16,070; fees for private bags and boxes, £6,635; collections from other Governments, £5,350; poundage on postal notes, £11,850; and miscellaneous receipts, £1,166.



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The expenditure for the year comprised :—Salaries, £424,427; conveyance of mails, £213,924; cable subsidies, etc., £7,082; postal and telegraphic working expenses (various), £100,747; postage stamps repurchased from the public and used as remittances by public officials, £18,047; and allowances to the Railway Department for transacting postal and public telegraph business at railway offices, £7,116. Exclusive of 984 mail contractors, 5,516 persons were employed by the Department, of whom 1,459 were engaged in the head office. The following return will give an idea of the magnitude of the work done by the Post Office of New South Wales :—

| Year. | Letters. | | Post Cards. | Newspapers. | | Packets & Book Parcels. | | Parcels. |
|---|---|---|---|---|---|---|---|---|
| | Beyond the State. | Inland. | | Beyond the State. | Inland. | Beyond the State. | Inland. | |
| 1855 | 617,041 | 1,497,188 | ..... | 819,376 | 1,281,618 | ‡..... | ‡..... | .... |
| 1860 | 868,746 | 3,362,015 | ..... | 910,478 | 2,758,305 | 12,196 | 71,540 | .... |
| 1865 | 1,106,045 | 5,222,308 | ..... | 1,028,054 | 3,660,904 | 28,852 | 221,052 | .... |
| 1870 | 1,103,200 | 5,980,300 | ..... | 1,206,000 | 2,608,100 | 36,700 | 121,000 | .... |
| 1875 | 1,719,100 | 11,998,800 | ..... | 1,385,000 | 4,876,700 | 82,300 | 274,700 | .... |
| 1880 | 2,776,000 | 18,956,000 | 153,380 | 2,381,300 | 11,409,800 | 146,600 | 565,000 | .... |
| 1885 | 5,328,200 | 34,023,000 | 341,000 | 3,987,900 | 21,579,500 | 552,600 | 2,894,200 | .... |
| 1886 | 5,582,700 | 37,267,300 | 348,700 | 4,276,300 | †23,210,000 | 865,800 | 3,983,000 | .... |
| 1887 | 5,624,000 | 39,221,900 | 442,100 | 4,744,400 | †25,617,600 | 980,800 | 4,549,900 | .... |
| 1888 | 6,202,800 | 42,783,300 | 520,920 | 5,255,000 | 28,500,400 | 1,041,600 | 5,560,300 | .... |
| 1889 | 6,346,700 | 47,624,600 | 630,100 | 5,599,000 | 30,931,800 | 1,305,000 | 6,564,400 | .... |
| 1890 | 8,109,300 | 54,908,400 | 677,400 | 6,949,900 | 33,647,300 | 2,214,300 | 6,725,300 | 21,300 |
| 1891 | 9,145,600 | 59,033,000 | 808,700 | 7,233,400 | 35,283,900 | 2,902,100 | 8,166,400 | 25,700 |
| 1892 | 11,549,600 | 65,025,800 | 827,360 | 9,529,300 | 35,991,200 | 3,274,900 | 9,105,300 | 23,600 |
| 1893 | 10,616,500 | 66,924,000 | 850,420 | 9,055,600 | 35,872,300 | 3,287,100 | 8,773,500 | 63,700 |
| 1894 | 11,125,500 | 56,867,900 | §1,170,000 | 9,503,900 | 32,163,400 | 5,654,200 | 7,919,400 | 367,900 |
| 1895 | 11,974,300 | 56,104,700 | §1,294,700 | 9,235,800 | 35,667,100 | 4,206,200 | 7,053,600 | 422,500 |
| 1896 | 12,468,900 | 56,426,300 | §1,496,500 | 9,324,000 | 36,234,300 | 6,306,000 | 9,297,600 | 596,100 |
| 1897 | 13,977,000 | 58,513,200 | §1,534,700 | 8,457,600 | 33,968,600 | 3,481,900 | 9,236,800 | 539,500 |
| 1898 | 14,735,000 | 60,384,000 | §1,862,100 | 8,908,300 | 32,662,600 | 3,955,700 | 12,541,000 | 596,400 |
| 1899 | 14,374,000 | 60,311,200 | §2,040,600 | 9,525,500 | 37,281,100 | 2,056,300 | 11,930,300 | 654,500 |
| 1900 | 14,452,700 | 62,908,900 | §2,241,100 | 9,349,100 | 42,151,800 | 2,593,000 | 11,253,100 | 711,700 |

† Estimated. ‡ Included with letters. § Inclusive of letter-cards.

The progress exhibited by the table just given is astonishing. In 1855 the total number of letters and newspapers, inland and foreign, was only a shade over 2 millions each, whereas in 1900 the number of letters and post cards had grown to almost 80 millions, and newspapers to over 51 millions, without reckoning more than 14 million packets and book parcels which, in the year first mentioned, were included with the letters.

The charge on letters between the Commonwealth States and the United Kingdom, which had for a long period been at the rate of 6d. per half-ounce *via* Italy, and 4d. by the long sea route, was reduced in 1891 to 2½d. By an arrangement made at the Postal Congress held at Vienna in the middle of 1891, New South Wales, as well as the other provinces of Australasia, entered the Universal Postal Union on the 1st October, 1891. The effect of this has been to extend the reduced rate to all countries embraced in the Union. The letters posted in New South Wales for countries outside Australasia increased from 986,400 in 1891 to 1,101,000 in 1892, the newspapers from 793,600 to

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873,100, and packets from 142,000 to 194,900; but in 1900 the number of letters had increased to 1,521,958; newspapers had decreased to 801,750, while packets had increased to 372,374.

By an enactment made in June, 1893, it is required that newspapers be registered at the General Post Office, and both newspapers and supplements must be printed in New South Wales, from type set up therein, in order to entitle them to transmission as newspapers. If posted within seven days from the date of publication, newspapers are transmitted within the state free, if not exceeding 10 oz. in weight, and at the rate of ½d. each for every additional 10 oz. Newspapers for Victoria, South Australia, Western Australia, Tasmania, New Zealand, and Fiji (if printed in New South Wales) are charged ½d. each up to 10 oz., and ½d. for every additional 10 oz. or fraction thereof; and to Queensland and British New Guinea, ½d. for every 2 oz. To the United Kingdom or foreign countries the charge is 1d. each for any weight up to 4 oz., and ½d. for every additional 2 oz.

These regulations which were in force at the date of publication of this work will shortly be superseded by regulations issued under the terms of the Commonwealth Postal Act.

The following table shows the number of registered letters dealt with during the last seven years. The figures represent the business of New South Wales; prior to 1894 the statistics were only compiled for the General Post Office, Sydney.

| Year. | Number. | Year. | Number. |
|---|---|---|---|
| 1894 | 856,128 | 1898 | 1,054,045 |
| 1895 | 902,448 | 1899 | 1,038,768 |
| 1896 | 951,025 | 1900 | 1,023,974 |
| 1897 | 998,304 | | |

Of the registered letters in 1899 and 1900, there were respectively 356,232 and 365,575 from and to places beyond the state, and 682,536 and 658,399 inland.

Compared with the other states of the Commonwealth, with New Zealand, and with the United Kingdom, New South Wales occupies a favourable position as regards the number of letters, post cards, and newspapers carried per head of population, as may be seen from the following table :—

| Country. | Number per head of population. | | Country. | Number per head of population. | |
|---|---|---|---|---|---|
| | Letters and postcards. | Newspapers. | | Letters and postcards. | Newspapers. |
| New South Wales | 59 | 38 | New Zealand | 55 | 22 |
| Victoria | 66 | 21 | Australasia | 55 | 25 |
| Queensland | 45 | 24 | United Kingdom | 65 | 4 |
| South Australia | 57 | 28 | England and Wales | 70 | 4 |
| Western Australia | 77 | 40 | Scotland | 55 | 4 |
| Tasmania | 61 | 37 | Ireland | 35 | 4 |

New postal routes to the extent of 1,253 miles were opened during 1900, while 666 miles of routes were abandoned.

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### Money Orders and Postal Notes.

The money order system was brought into operation in New South Wales in January, 1863, when nineteen offices were opened—the head office in Sydney, and eighteen branch offices in various parts of the state. In June of the same year the operation of the system was extended to the United Kingdom and all the Australian states with the exception of Tasmania, and the number of offices in New South Wales was increased to forty-seven. Tasmania entered into the arrangement in 1865, and the Department has continued steadily to make progress. In addition to the ordinary transmission of money orders by post, remittances may now be made by telegraph from all Money Order Offices which are also telegraph offices, to similar offices in other states. Telegraphic money orders are also issued and paid at Money Order Offices connected by telephone with the telegraph system. At the end of 1900 there were 675 Money Order Offices in the state, thirteen new offices having been established during the year. The money orders issued during the year amounted to £1,507,967, whilst £1,541,535 represented the value of orders drawn on the state and paid therein. The net commission received by the Government in the course of the twelve months was £16,347.

Postal notes were introduced on the 1st October, 1893. They range in value from 1s. to 20s., and may be obtained at all Money Order Offices, the poundage varying from 1d. to 4d. Postal notes may be exchanged between New South Wales and the other Australasian provinces, except Western Australia and New Zealand. During 1900, the value of the notes of New South Wales cashed within the state was £488,483 16s. 11d., and of those of other states, £25,361 19s. 5d. The revenue derived from the system during the last quarter of 1893 was £548 17s. 10d.; during the year 1894, £3,877 13s. 4d.; during 1895, £6,316 12s. 4d.; during 1896, £7,838 17s. 4d.; during 1897, £9,091 19s. 8d.; during 1898, £10,099 1s. 6d.; during 1899, £10,966 1s. 11d.; and during 1900, £11,849 12s. 1d. Further particulars of the money order and postal note systems will be found in the chapter dealing with Private Finance.

### Post-Office Savings Bank.

The Post-office Savings Bank, which, like the Money Order Office, is under the control of the Postmaster-General, was established in the year 1871 at the General Post Office, Sydney, with branches at the principal country towns. The growth of this branch of the service has fully kept pace with those already mentioned. In 1900 there were 554 Post-office Savings Banks—an increase of 17 on the number open in the previous year. During the year, 60,793 new accounts were opened, and 42,305 accounts were closed, the number of accounts remaining open at the close of the year being 198,014. The amount of deposits received was £2,995,244,—an increase of £337,645 as compared with the business of the previous year. The sum of £155,686 was added to depositors'

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accounts for interest. The balance to the credit of depositors at the end of the year was £6,045,622. The average amount of each deposit was £6 8s. 7d., and the average balance at the credit of each depositor was £30 10s. 7½d. Further information respecting Savings Banks will be found in the chapter on Private Finance.

## TELEGRAPHS.

The electric telegraph was first used by the public of New South Wales on the 26th January, 1858, when the line from Sydney to Liverpool, 22 miles in length, was brought into operation. From this small beginning the system has increased until in 1900 there were 961 stations, and 14,065 miles of line open, carrying 41,494 miles of wire in actual use, while there were 168 miles of line and 414 miles of additional wire in course of construction. The following table gives a view of the business of the Telegraph Branch of the Post Office from 1865 to 1900:—

| Year. | Telegraph Stations. | Telegrams transmitted, delivered, and in transit. | Actual Revenue received. | Lines. | Wires. | Cost of construction, including Telephone installation. |
|---|---|---|---|---|---|---|
| | No. | No. | £ | miles. | miles. | £ |
| 1865 | 55 | *138,785 | 29,769 | ..... | 2,989 | 145,446 |
| 1870 | 86 | *173,812 | 28,550 | ..... | 5,247 | 195,545 |
| 1875 | 137 | *719,745 | 48,657 | ..... | 8,012 | 253,391 |
| 1880 | 289 | 1,319,537 | 84,110 | ..... | 13,188 | 462,226 |
| 1885 | 404 | 2,625,992 | 155,073 | ..... | 19,864 | 641,669 |
| 1886 | 425 | 2,661,126 | 158,128 | ..... | 20,797 | 666,028 |
| 1887 | 434 | 3,258,733 | 164,511 | ..... | 21,444 | 684,600 |
| 1888 | 460 | 3,936,830 | 185,965 | ..... | 22,219 | 704,912 |
| 1889 | 485 | 3,932,670 | 186,862 | 10,732 | 22,606 | 713,663 |
| 1890 | 628 | 4,101,449 | 193,707 | 11,231 | 23,598 | 743,698 |
| 1891 | 674 | 4,046,251 | 191,319 | 11,697 | 24,780 | 767,872 |
| 1892 | 706 | 2,976,109 | 185,014 | 11,905 | 26,443 | 801,918 |
| 1893 | 724 | 2,853,691 | 157,482 | 12,097 | 27,326 | 820,822 |
| 1894 | 813 | 2,464,074 | 147,903 | 12,201 | 28,085 | 831,471 |
| 1895 | 834 | 2,635,456 | 145,901 | 12,316 | 28,799 | 840,380 |
| 1896 | 856 | 2,796,776 | 159,741 | 12,418 | 30,820 | 889,476 |
| 1897 | 886 | 2,728,360 | 155,162 | 12,778 | 33,073 | 932,412 |
| 1898 | 916 | 2,866,570 | 158,062 | 13,242 | 35,630 | 989,423 |
| 1899 | 945 | 3,112,063 | 168,758 | 13,663 | 38,718 | 1,051,987 |
| 1900 | 961 | 3,219,907 | 174,895 | 14,065 | 41,494 | 1,132,626 |

* Number despatched only.

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The number of telegrams received and despatched during the year, inland telegrams being counted once only, amounted to 3,058,720, or over 2 per head for every individual of the population.

The state of telegraphic construction in the principal countries of the world at the latest available dates is given herewith. The figures are interesting, though the circumstances of Australasia and the older countries are so dissimilar as to make a comparison between them more curious than valuable:—

| Country. | Length in Miles— | | Country. | Length in Miles— | |
|---|---|---|---|---|---|
| | Of Line. | Of Wire. | | Of Line. | Of Wire. |
| Australasia | 51,750 | 120,452 | Italy | 26,085 | 101,198 |
| Argentine Republic | 27,584 | 58,656 | Japan | 13,879 | 59,396 |
| Austria-Hungary | 47,248 | 170,081 | Mexico | 42,000 | .... .... |
| Belgium | 3,961 | 45,944 | Netherlands | 3,689 | 13,511 |
| Brazil | 10,143 | 21,936 | Norway | 7,164 | 20,654 |
| Canada | 33,074 | 81,266 | Portugal | 4,584 | 9,475 |
| Cape Colony | 7,360 | ..... | Russia | 93,052 | 271,024 |
| Chili | 9,968 | 11,200 | Spain | 19,868 | 45,790 |
| Denmark | 3,068 | 9,367 | Sweden | 8,749 | 27,154 |
| France | 79,396 | 400,341 | Switzerland | 4,380 | 13,378 |
| Germany | 77,910 | 285,775 | Turkey | 22,400 | 39,600 |
| Greece | 5,300 | 6,200 | United Kingdom | 44,970 | 329,660 |
| India (inclusive of Native States). | 51,769 | 160,650 | United States | 192,705 | 933,153 |

## Cable Services.

At a Conference of the Postal and Telegraph authorities held in Sydney in March, 1891, New South Wales, Victoria, South Australia, Western Australia, and Tasmania undertook to make good half the loss which the Eastern Extension Telegraph Company might sustain by a reduction in the schedule of cable charges. The amount to be guaranteed to the Company for the time during which the contract was in existence was one-half of the amount of receipts short of the sum of £237,736 (the amount of the Company's receipts in 1889, after deducting out-payments), the other half of the loss to be borne by the Company. The amended cable rates came into force in May, 1891. For European messages the rates were reduced from 9s. 4d. to 4s. 2d. per word for ordinary messages from Sydney, from 7s. 1d. to 3s. 8d. per word for Government messages, and from 2s. 8d. to 1s. 10d. per word for Press messages, proportionate reductions being made for messages to countries other than those in Europe. By a further agreement, dated November, 1892, the contracting states decided to contribute towards such sum required to bring the revenue of South Australia on international telegrams up to £37,552. The combined guarantees cost New South

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Wales in 1892 the sum of £15,397. A conference held in Melbourne decided, in view of the heavy loss to the states, to increase the rate for ordinary messages to 4s. 9d. per word from Melbourne, equal to 4s. 11d. from Sydney. The new rates came into force on 1st January, 1893, concurrently with an arrangement under which New Zealand became a contributor, on the same terms, towards the guarantees to the Company and South Australia in connection with the reduction in the international rates.

From May, 1893, to April, 1894, the amount paid by New South Wales to the Cable Company in respect of the guarantee in connection with the reduced rates mentioned above, was £2,056, £273 also being paid to South Australia. The total contribution for that year in respect of all cable services was £21,862; the amount paid by the state for the year ended 30th April, 1895, was £21,598; while in the following year the amount was £18,167, in 1897, £17,710, in 1898, £17,512, and in 1899, £15,185. The payments to the Cable Company and the South Australian Government have now disappeared, the receipts in both cases being in excess of the guarantee. The contributions which New South Wales was called upon to pay were, for the twelve months ended 30th April, 1900:—Victoria-Tasmania Cable Subsidy, £1,494; New Zealand Guarantee, £237; for the twelve months ended 31st December, 1900:—Queensland-New Caledonia Guarantee, £2,000; total, £3,731.

In the month of April, 1892, an agreement was entered into between New South Wales and the Société Française des Télégraphes Sousmarins (now known as the Compagnie Française des Cables Télégraphiques) by which the latter undertook to lay down a submarine cable, for the purpose of establishing telegraphic communication between Queensland and New Caledonia, in consideration of the payment by New South Wales (Queensland having agreed to contribute a like amount), of an annual sum for a period of thirty years, at the rate of £2,000 a year, or such smaller sum as shall, together with one-sixth of the net amount received by the company for messages during the year, after deducting working expenses—not exceeding £2,400—amount to £2,000. Provision was made that the Government should have the use of the cable for official messages up to this amount. In October, 1893, the cable was opened.

The establishment of cable communication between Canada and Australasia was considered at a Colonial Conference held in London in 1897, when a resolution was carried suggesting that a thorough and exhaustive survey of a route should be made. The construction of the Pacific cable was recommended at the Postal Conference in Sydney in 1888, and the Admiralty was requested to cause an early survey of a suitable route, the cost to be borne by Great Britain, Canada, and Australasia. This cable was also advocated by an Intercolonial Postal and Telegraphic Conference, held in New Zealand during March, 1894, and was reaffirmed by conferences of a similar character,

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which met in Hobart in February, 1895; in Sydney, in January, 1896; and in Hobart in March, 1898. The Colonial Conference, which sat in Ottawa in June, 1894, also recommended that such a cable should be constructed; and the Secretary of State for the Colonies appointed a Commission, on which the British, Canadian, and Australasian Governments were represented, for the purpose of inquiring into the best route for the cable, and the probable cost of its construction. This Commission recommended the adoption of the proposals made at the Sydney Postal Conference, which provided for the distribution of the cost of construction and maintenance equally between Great Britain, Canada, and Australasia, and fixed the landing places within British territory.

The following table shows the amount of outward business transacted by New South Wales with Europe and the East during the last ten years. Compared with 1891, the year 1900 shows an increase of 12,466 messages, and of £45,836 in revenue :—

| Year. | Cable Messages sent from New South Wales. | Amount received. | Year. | Cable Messages sent from New South Wales. | Amount received. |
|---|---|---|---|---|---|
| | No. | £ | | No. | £ |
| *1891 | 14,982 | 46,192 | 1896 | 19,826 | 68,040 |
| 1892 | 16,511 | 41,746 | 1897 | 21,028 | 68,479 |
| 1893 | 15,587 | 50,625 | 1898 | 21,524 | 66,415 |
| 1894 | 15,146 | 50,567 | 1899 | 24,375 | 78,168 |
| 1895 | 17,761 | 60,652 | 1900 | 27,448 | 92,028 |

* Partly old, partly new, rates.

The number of cablegrams despatched from each of the Commonwealth States and New Zealand in 1900, the number received, and the cost of the messages are given below :—

| State. | Forwarded. | | Received. | | Total. | |
|---|---|---|---|---|---|---|
| | Messages. | Cost. | Messages. | Cost. | Messages. | Cost. |
| | No. | £ | No. | £ | No. | £ |
| New South Wales ... | 27,448 | 92,028 | 24,069 | 74,444 | 51,517 | 166,472 |
| Victoria ..... | 23,075 | 77,358 | 21,908 | 73,520 | 44,983 | 150,878 |
| Queensland ..... | 5,562 | 14,870 | 4,168 | 11,271 | 9,730 | 26,141 |
| South Australia ... .. | 13,453 | 29,406 | 14,453 | 37,336 | 27,906 | 66,742 |
| Western Australia ... | 18,662 | 51,653 | 14,999 | 39,114 | 33,661 | 90,767 |
| Tasmania ..... | 1,069 | 3,106 | 829 | 2,325 | 1,898 | 5,431 |
| Commonwealth... | 89,269 | 268,421 | 80,426 | 238,010 | 169,695 | 506,431 |
| New Zealand..... | 11,823 | 42,862 | 10,316 | 33,722 | 22,139 | 76,584 |
| Total ..... | 101,092 | 311,283 | 90,742 | 271,732 | 191,834 | 583,015 |

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## Telephones.

The total number of lines connected with the telephone system of the state on the 31st December, 1900, was 11,196, of which 9,470 were in Sydney and suburbs, and 1,726 in the country. There were 45 telephone exchanges, and the number of telephones in use was 12,197. The length of wire used in the transmission of messages cannot be given, as the telegraph wires are largely used for communication by telephone. Some particulars regarding telephones in the Commonwealth States and New Zealand in 1900 will be found in the following table:—

| State. | Exchanges. | Telephones. | Length of Wires (distinct from Telegraph Wires). | Revenue. |
|---|---|---|---|---|
| | No. | No. | miles. | £ |
| New South Wales | 45 | 12,197 | * | 70,877 |
| Victoria | 17 | 5,136 | 16,393 | 53,254 |
| Queensland | 14 | 2,247 | 3,571 | 16,722 |
| South Australia | 9 | 1,564 | 3,625 | 18,094 |
| Western Australia | 11 | 2,445 | 4,006 | 23,510 |
| Tasmania | 7 | 1,213 | 1,194 | 5,148 |
| Commonwealth | 103 | 24,802 | ..... | 187,605 |
| New Zealand | 48 | 8,210 | 6,987 | 48,427 |
| Total | 151 | 33,012 | ..... | 236,032 |

* Not furnished.

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# SOCIAL CONDITION AND CHARITIES.

IN one particular, New South Wales, in common with all the provinces of Australasia, differs greatly from other countries, especially those of the Old World: wealth is more widely distributed, and the violent contrast between rich and poor, which seems so peculiar a phase of old-world civilisation, finds no parallel in these southern lands. That there is poverty in these provinces is unhappily true; but no one in Australasia is born into conditions from which it is not easy to escape; and that hereditary pauper class, which forms so grave a menace to the freedom of many states, has, therefore, no existence here.

It is estimated that in the United Kingdom nine persons in every hundred possess property to the amount of £100; whereas in these states the proportion is not less than 16 per cent. This bare statement shows the great difference between the conditions of life in the Australian Commonwealth and in the richest country of Europe. No poor rate is levied in these states; and although from time to time the assistance of the state is claimed by, and granted to able-bodied men who are unable to find employment, that assistance has hitherto generally taken the form of wages and rations allowed for work specially provided by the state to meet a condition of the labour market which is abnormal.

The chief efforts of the authorities in the cause of charity are directed towards the rescue of the young from criminal companionship and temptation to crime, the support of the aged and infirm, and the care of the imbecile or insane; and in granting assistance to private institutions for the cure of the sick and injured, and to societies established for the purpose of relieving the pressing necessities of those of the poorer classes who, through improvidence, and lack of employment by the breadwinner of the family, find themselves temporarily in want. Even where the Government grants aid for philanthropic purposes, the management of the institutions supervising the expenditure is in private hands; and in addition to state-aided institutions, there are numerous other private charities whose efforts for the relief of those whom penury, sickness, or misfortune has afflicted are beyond all praise.

The rescue of the young from crime is attempted by means of Industrial Schools, where children who have been abandoned by their natural guardians, or who are likely, from the poverty or incapacity of their parents, to be so neglected as to render them liable to lapse into crime,

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are taken care of, educated, and afterwards apprenticed to useful callings; and of reformatories where children are sequestered who have already committed crime, but the accommodation in the latter class of institution is at present very limited, and might well be extended.

## PUBLIC HOSPITALS.

In the chapter dealing with Vital Statistics it is pointed out that the number of deaths caused by accident is very great. This arises from the peculiar nature of the occupations in which a large proportion of the adult male population is employed. Though New South Wales has long been settled, its resources are by no means developed, and many men are at work far away from the home comforts of everyday life, and from home attendance in case of sickness or injury. Hospitals are therefore absolutely essential under the conditions of life in the country districts of the state, and they are accordingly found in every important country town. At the close of the year 1900 there were 120 hospitals or infirmaries in operation or nearing completion in the state, as shown by the following table:—

| Hospitals. | Metropolitan. | Country. | Total. |
|---|---|---|---|
| Subsidised ..... | 10 | 104 | 114 |
| Non-subsidised ..... | 3 | 1 | 4 |
| Privately endowed ..... | 1 | ..... | 1 |
| Government ..... | 1 | ..... | 1 |
| Total ..... | 15 | 105 | 120 |

The number of beds in these institutions was 3,352, of which 2,873 were intended for ordinary cases, and 479 for infectious cases. The average cubic space per bed varied, in the metropolitan area, between 1,780 feet in the St. Vincent's Hospital, Sydney, and 605 feet in the St. Margaret's Maternity Hospital; and in the country, between 1,922 feet in the Hill End and Tambaroora Hospital, and 540 feet in the institution at Sofala. During the year, 30,590 persons were under treatment as indoor patients. Of this number, 1,901 remained from the previous year, and 28,689 were admitted during 1900. There were discharged 25,269 persons, either as cured or relieved or at their own request, and 943 as past all human assistance, while 2,322 died. The number remaining in hospital at the close of the year was, therefore, 2,056.

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The following statement shows the number of admissions, discharges, and deaths for the past ten years :—

| Year. | Total Patients under treatment. | Number Discharged as cured, etc. | Deaths. | | Number of Patients at the close of year. |
|---|---|---|---|---|---|
| | | | Number. | Per cent. under treatment. | |
| 1891 | 19,096 | 16,183 | 1,577 | 8·3 | 1,336 |
| 1892 | 19,214 | 16,372 | 1,440 | 7·5 | 1,402 |
| 1893 | 20,424 | 17,461 | 1,498 | 7·3 | 1,465 |
| 1894 | 23,582 | 20,259 | 1,682 | 7·1 | 1,641 |
| 1895 | 25,497 | 21,960 | 1,829 | 7·2 | 1,708 |
| 1896 | 26,697 | 22,915 | 2,059 | 7·7 | 1,723 |
| 1897 | 27,664 | 23,747 | 2,016 | 7·3 | 1,901 |
| 1898 | 29,604 | 25,425 | 2,302 | 7·8 | 1,877 |
| 1899 | 29,770 | 24,752 | 2,241 | 7·5 | 1,889 |
| 1900 | 30,590 | 25,269 | 2,322 | 7·6 | 2,056 |

The number remaining at the close of the year may be taken as representing the average number resident. It will be seen from the table that the increase in the number of patients has been fairly regular, so that the proportion of the population to be found in hospitals is about the same in each year, the average in 1900 being 1·5 per thousand.

The death rate per 100 persons under treatment during the past ten years was 7·5, while the rate for 1900 was 7·6, or 0·1 above the decennial average. The rate for each year is stated above. The death rate of hospitals in New South Wales, compared with those of Europe, is undoubtedly very high. The number of fatal cases is swollen by the inclusion of the deaths of persons already moribund when admitted, and of persons in the last stage of phthisis. It has elsewhere been pointed out that deaths from accidents form a very considerable proportion of the total number registered—a circumstance due to the nature of the occupations of the people, and the dangers incidental to pioneering enterprise. A large majority of the accidents that occur, when not immediately fatal, are treated in the hospitals; and, indeed, these institutions, especially in country districts, are for the most part maintained for the treatment of surgical cases. When these circumstances are taken into consideration the cause of the apparent excess of deaths in the hospitals of the state will at once be understood.

Applications for admission into the metropolitan hospitals are made to the Government Medical Officer, and it is the duty of that officer to assign the cases to the different hospitals and asylums in accordance with the nature, severity, and special character of the ailments from which the patients are suffering, and the accommodation available at the various institutions. The number of applications dealt with during 1900 was 10,812, as compared with 10,512 in the preceding year. Of the applicants during 1900, 1,148 received orders for the Coast Hospital, 1,069 for the Prince Alfred Hospital, 1,006 for the Sydney

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Hospital, 303 for Moorcliff, and 20 for the Carrington Convalescent Hospital; whilst 2,966 were recommended for admission to the Asylums for the Infirm and Destitute, 3,673 received orders for outdoor treatment, 144 obtained orders for trusses, and 67 orders for spectacles. There were 416 applicants, or 3·8 per cent. of the whole number, who were refused relief, as not being fit subjects for aid. It is necessary to bear in mind that these figures represent cases, not individuals. In some instances the same person has been in an institution several times during the year.

The amount expended by the state in the year 1900–01 for the maintenance of the sick poor was £15,000, the principal beneficiaries being the Prince Alfred Hospital, the Sydney Hospital, the Moorcliff Hospital, and the Carrington Convalescent Hospital. For the last five years the average amount paid by the Government for the maintenance of sick persons has been £13,074. These sums are in addition to £10,750 granted during 1900–01 to the principal hospitals—namely, £4,416 to the Sydney Hospital, £3,885 to the Prince Alfred Hospital, £999 to the Carrington Hospital, £1,450 to the Hospital for Sick Children—and to £55,026 paid on account of country and suburban hospitals, namely, special grants, £9,702; general subsidy, £44,798; and in aid of building funds, £526; while towards the rent of Moorcliff and Victoria Lodge the Government paid £350, and the expenditure on the State Hospital at Little Bay amounted to £13,101 for the year. According to the hospital accounts, the total expenditure of the Government in connection with the hospitals in the Metropolitan area averaged, for the last five years, £45,428 per annum, the amount for 1900 being £46,489; while on the country hospitals the expenditure by the state totalled £42,171 for the last year, the average for five years being £36,056. These amounts are irrespective of payments for attendance on Aborigines; expenses attending special outbreaks of disease in country districts, which are met from the general medical vote; and the maintenance in the Asylums for the Infirm and Destitute of a large number of chronic and incurable hospital cases.

The mere mention of this liberal state expenditure for the relief of the sick might, without explanation, lead to a misapprehension with regard to the amount of destitution in the community. It is desirable, therefore, to state that out of the 10,812 persons who applied for hospital treatment at the Government expense, or for admission to the Asylums for the Infirm and Destitute during the year 1900, only 3,699 were natives of New South Wales, while 851 came from the other Australasian provinces, 5,310 from the United Kingdom, and 952 from other countries, including 72 Chinese and Japanese, and 95 Indians. It is rather remarkable that while the natives of the United Kingdom form less than a quarter of the total population of the state, they furnish, nevertheless, nearly one-half of those seeking hospital relief. The total number of applicants, excluding the natives of New South Wales, was 7,113, of whom 581

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had been less than twelve months in the state, 421 less than six months, and 157 less than one month. It is not an infrequent occurrence to find patients who apply for hospital relief admit that they have arrived direct from a neighbouring state, solely for the purpose of obtaining this relief. Many arrive in the last stage of phthisis, or in a condition of chronic ill-health, and the adoption of some legislation, such as exists in other states, to prevent the influx of persons likely to become a charge upon the community, is a pressing necessity.

Little exact information is to hand respecting the outdoor relief afforded by hospitals, this form of charity not being so important as indoor relief; nevertheless, the number of out-door patients during 1900 was returned as 62,223.

Omitting from consideration the Government establishment at Little Bay, the expenditure in 1900 of all the hospitals of the state, for purposes other than building and repairs, was £130,165, representing an average of £42 9s. 1d. per bed. This sum is somewhat in excess of the truth, as a deduction should be made for out-patients, but the information is not available. The average cost of each indoor patient treated was £4 10s. 9d. The subscriptions and donations received from private persons amounted to £65,740, while the receipts from patients were £20,455; and the miscellaneous receipts amounted to £16,394; in all, £102,589 from private sources and from patients. From the state, the sum of £71,952 was received, so that the total revenue of hospitals from all sources was £174,541. The following statement shows the revenue and expenditure of these institutions for the year 1900:—

| Revenue and Expenditure. | Metropolitan. | Country. | New South Wales. |
|---|---|---|---|
| Receipts— | £ | £ | £ |
| Government aid | 29,781 | 42,171 | 71,952 |
| Private contributions | 42,740 | 43,455 | 86,195 |
| Other sources | 7,688 | 8,706 | 16,394 |
| Total receipts | 80,209 | 94,332 | 174,541 |
| Expenditure— | | | |
| Building and repairs | 5,728 | 11,018 | 16,746 |
| Maintenance (including salaries) | 49,247 | 67,461 | 116,808 |
| Miscellaneous | 5,827 | 7,530 | 13,357 |
| Total expenditure | 60,902 | 86,009 | 146,911 |

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The expenditure in connection with the Little Bay Hospital has not been included in the figures stated above, that institution being entirely in the hands of the Government. At this hospital, 2,513 patients were treated during the year. The average number resident daily was 214, and the average stay in hospital of discharged patients was 30 days. There were 133 deaths, and 1,673 patients were discharged cured, 393 relieved, and 81 unrelieved. The number of lepers under detention at the lazaret on 31st December, 1899, was 13, and at the end of 1900, 11. At the end of 1895 there were 37 patients in the institution, but in accordance with arrangements made by the Government of the state 21 Chinese were repatriated during the years 1896 and 1897. Of the 11 inmates of the lazaret at the close of 1900, 5 were natives of New South Wales, 1 of Java, 1 of Fiji, 1 of Tanna, 1 of the United States, and 2 were Chinese. The expenditure on the Little Bay Hospital during 1900 was £16,731, so that the total expenditure of the state on hospitals amounted to £163,642. The gross expenditure by the Government during the financial year 1900–01 upon all hospitals and asylums, with the exception of asylums for the insane and Mission Stations for Aborigines, was £225,570, or inclusive of these institutions, £353,909. This sum includes £60,352 expended on the asylums for the infirm and destitute; £4,143 for the support of women and children in benevolent asylums; £10,667 for the maintenance of deserted children, paupers, &c.; £2,819 granted to the Benevolent Society, Sydney; and £2,000 to the Benevolent Society, Newcastle. The Government institutions for the relief of destitute adults, viz., the two asylums at Parramatta, the asylums at Liverpool, Newington, and Rookwood, and the cottage homes for married couples at Parramatta, contained altogether 4,093 inmates at the end of 1900. The number of inmates in each institution will be found in tables on page 534, but, in addition to the indoor relief, considerable aid is extended to the outside poor. Apart from medical advice and medicines, outdoor relief consists largely of supplies of provisions. Information showing the full extent of the relief thus afforded at all institutions is not available, but the goods gratuitously distributed at the Benevolent Asylum, Sydney, during the year 1900, were as follow:—Bread, 156,511 loaves; flour, 68,843 lb.; meat, 111,729 lb.; tea, 10,993 lb.; sugar, 45,673 lb.; sago, 5,038 lb.; rice, 9,918 lb.; oatmeal, 8,509 lb.; arrowroot, 108 lb.; and milk, 577 quarts. Boots and blankets also formed portion of the bounty distributed. The cost of provisions distributed during the year was £3,093 for ordinary cases.

Besides hospitals properly so-called, there exist various institutions for the reception of fallen women; for the treatment of the blind, and the deaf and dumb; for the relief of consumptives; for ministering to the wants of destitute women; for granting casual aid to indigent persons; for the help of discharged prisoners, and for many other purposes which rouse the charity of the people. Steps were taken in connection with the Queen's Diamond Jubilee celebrations to collect a fund for the establishment of a new Hospital for Consumptives, where the

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treatment of persons suffering from phthisis might be carried out under the most favourable conditions, and in the light which the latest medical knowledge has thrown upon this insidious disease. Until this fund shall have reached sufficient proportions to allow of the original purpose being carried out, its promoters have taken over the Consumptives' Home at Thirlmere, which was established years ago by private benevolence.

The Infants' Home, Ashfield; the Hospital for Sick Children, Glebe; the Institution for the Deaf and Dumb and the Blind, Newtown, besides other institutions in different parts of the state, receive help from the Government; but they are maintained principally by private contributions. The management of these, and, indeed, of almost all institutions for the relief of the sick, is in the hands of committees elected by persons subscribing towards their support. In addition to the above, there are several institutions under the control of the Roman Catholic body, and supported entirely by private charity. At the City Night Refuge and Soup Kitchen there were no less than 108,210 meals given during 1900, and shelter was provided in 48,852 instances.

## Destitute Children.

The problem of dealing with destitute children and those liable from their environment to become criminal is naturally surrounded with very great difficulty, and its solution was attempted many years ago by the establishment of the orphanages at Parramatta and the destitute children's asylum at Randwick, as well as the Vernon Training Ship for boys, and the Biloela Reformatory and Industrial School for girls. The system of crowding children in large establishments was rightly considered as open to many grave objections, and in 1880 a scheme of separate treatment was inaugurated. Accordingly an Act was passed by the Legislature, empowering the formation of a Board, to whose charge the destitute or neglected children of the state were entrusted.

The State Children's Relief Board commenced its operations on the 5th April, 1881, with 24 boys and 35 girls, or a total of 59 children. During the twenty years of its existence, the Board has dealt with no less than 10,862 children, who have been removed for boarding out from the state institutions of the province, and others partly supported by public contributions. Of that number, 6,952 children had been either discharged to their parents or otherwise removed from the control of the Board, so that there were remaining under its charge on the 5th April, 1901, 3,910, of whom 2,205 were boys and 1,705 were girls. Of these children, 2,300, comprising 1,301 boys and 999 girls, were boarded out to persons deemed to be eligible after strict inquiry

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by the Board. The rates of payment range up to 10s. per week, the highest rates being paid for infants under one year, who require more than ordinary care, and the lowest for children boarded out to their own mothers. A strict supervision is exercised by the officers of the Board in order to see that the children are not ill-treated or neglected, and in addition to this there are voluntary lady visitors acting in the various districts who keep a constant watch upon these children of the state. Besides the boarded-out children, there were also, in April, 1901, 114 who had been adopted without payment, and who were, in the main, treated by their foster-parents as though they were their own kin; 52 of these adopted children were boys, and 62 were girls. Then there were 761 boys and 494 girls, or 1,255 children in all, who were apprenticed but were still under the control of the Board. Of the remainder, 149 were in the cottage homes, 29 were boarded without subsidy, 29 absconded, 5 were over age, 13 were in hospital, and 16 in the depôt. It is asserted that the practical success of the boarding-out system is exemplified by the expansion shown in these figures. Over two thousand children have grown up and been taught useful trades and profitable occupations many of whom would otherwise have drifted into the criminal or pauper population.

During the year, 1,684 applications were received by the Board for State Children. Of these applications, 1,358 were inquired into by the Inspectors attached to the Department, with the result that 884 were approved of, and 474 were refused—in most cases because the character of the applicants did not appear to come up to the standard required by the Board. The system of placing delicate young children out to nurse with healthy matronly women in the country districts has been found to work well. In April, 1901, there were 101 such children under control, at a total cost of about £1,900; and there were 143 children under the control of guardians, by whom they had been adopted, or to whom no subsidy was paid by the state. Of the apprentices, nearly all the girls were in domestic service, while the greater proportion of the boys were with farmers, orchardists, storekeepers, and artisans in healthy country districts. Taken as a whole, the apprentices are turning out remarkably well, and it is very seldom there are any serious complaints either from the children or from their guardians. Although the great majority of the children dealt with by the State Children's Relief Board passed through the Central Home at Paddington during the year, owing to the system of prompt removal to the country, the average daily number at that institution was not more than 22. It is claimed that the system pursued by the Board of extending to the dependent children of this country the privileges of family life and home training in place of the monotonous and artificial style of living in large asylums has been attended with successful results, and the cost to the state, equal to £10 17s. 0d. per child dealt with after deducting parents' contributions, can scarcely be looked upon as excessive.



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The number of children under the control of the Board in April of each year since 1881 is shown in the following table. During 1901 the deaths numbered 16, of which 9 were males and 7 females:—

| Year ending April. | Boys. | Girls. | Total. | Year ending April. | Boys. | Girls. | Total. |
|---|---|---|---|---|---|---|---|
| 1881 | 24 | 35 | 59 | 1892 | 1,390 | 1,006 | 2,396 |
| 1882 | 40 | 63 | 103 | 1893 | 1,472 | 1,065 | 2,537 |
| 1883 | 119 | 188 | 307 | 1894 | 1,606 | 1,203 | 2,809 |
| 1884 | 232 | 320 | 552 | 1895 | 1,822 | 1,352 | 3,174 |
| 1885 | 564 | 462 | 1,026 | 1896 | 1,954 | 1,502 | 3,456 |
| 1886 | 779 | 587 | 1,366 | 1897 | 2,085 | 1,586 | 3,671 |
| 1887 | 1,099 | 703 | 1,802 | 1898 | 2,083 | 1,626 | 3,709 |
| 1888 | 1,202 | 758 | 1,960 | 1899 | 2,104 | 1,618 | 3,722 |
| 1889 | 1,316 | 857 | 2,173 | 1900 | 2,156 | 1,688 | 3,844 |
| 1890 | 1,380 | 904 | 2,284 | 1901 | 2,205 | 1,705 | 3,910 |
| 1891 | 1,417 | 952 | 2,369 | | | | |

The ages of children placed out since the inauguration of the Board's operations are as follow:—

| Age. | Number. |
|---|---|
| Under 1 year | 355 |
| 1 and under 2 years | 401 |
| 2 ,, ,, 3 ,, | 696 |
| 3 ,, ,, 4 ,, | 860 |
| 4 ,, ,, 5 ,, | 889 |
| 5 ,, ,, 6 ,, | 974 |
| 6 ,, ,, 7 ,, | 1,074 |
| 7 ,, ,, 8 ,, | 1,044 |
| 8 ,, ,, 9 ,, | 1,115 |
| 9 ,, ,, 10 ,, | 1,058 |
| 10 ,, ,, 11 ,, | 883 |
| 11 ,, ,, 12 ,, | 649 |
| 12 years and over | 864 |
| Total | 10,862 |

The largest number of children dealt with by the Board have been received from the Benevolent Asylum, Sydney, 6,605 having been transferred from that institution up to the end of April, 1901; while from the Randwick Asylum 307, and from the Orphan Schools, Parramatta, 362 children have been taken. The orphan schools were closed in September,

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1886, and the children who would formerly have been sent to them are now taken charge of by the Board. The remaining children were removed from other public institutions and hospitals: From the Vernon and Sobraon, 416; from the Infants' Home, Ashfield, 89; from the Industrial School, Parramatta, 185; from the Shaftesbury Reformatory, 408; from Little Bay Hospital, 30; from the Benevolent Society, Newcastle, 55; from the Prince Alfred Hospital, 20; from the Children's Hospital, 24; from the Sydney Hospital, 17; from the Boys' Home, Rydalmere, 71; from the Carpenterian Reformatory, 41; from the St. Aloysius Home, 84; from the Deaf and Dumb and Blind Institution, 34; from Newington, 39; from other institutions, 29; and boarded-out from depôt, 2,046; making a total of 10,862 as aforesaid. The gross amount expended by the Government during the year on the State Children's Relief Department, including the Parramatta and Mittagong Cottage Homes, was £44,182, and parents' contributions toward the maintenance of their children and over-issues amounted to £1,760, leaving the net Government expenditure at £42,422.

From returns prepared it is estimated that since the initiation of the boarding-out system it has saved not less than £190,000 to the state, and the children individually are more satisfactorily treated than could be the case in crowded institutions. The number of destitute children in state institutions, including boarders paid for by the Government, at the end of each of the past ten years, was as follows:—

| Year. | Number. | Year. | Number. |
|---|---|---|---|
| 1891 | 2,111 | 1896 | 3,240 |
| 1892 | 2,239 | 1897 | 3,165 |
| 1893 | 2,502 | 1898 | 3,220 |
| 1894 | 2,708 | 1899 | 3,358 |
| 1895 | 3,041 | 1900 | 3,287 |

As the table shows, the figures for 1899 are the highest for the ten years, the returns for 1900 showing a decrease of 71 on this total.

Four industrial schools and reformatories are maintained by the state. These are the Parramatta Industrial School and the Shaftesbury Reformatory for girls; the Sobraon training-ship for boys; and the Carpenterian Reformatory at Eastwood, also for boys. The training-ship for a long time was used practically as a reformatory as well as an industrial school, for the absence of a reformatory led to many boys appearing before the Courts being sent to the ship. In August, 1895, however, the Carpenterian Reformatory was opened on part of the Brush Farm Estate, and arrangements were made to receive therein criminal boys, and to subject them to proper discipline and to teach them useful trades. The following table shows the number of children confined in

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the industrial schools and reformatories during the last ten years. The ship used as the training school for boys was formerly the Vernon :—

| Year. | Vernon or Sobraon. | Parramatta. | Shaftesbury Reformatory. | Carpenterian Reformatory. | Total. |
|---|---|---|---|---|---|
| 1891 | 230 | 80 | 32 | ..... | 342 |
| 1892 | 278 | 78 | 25 | ..... | 381 |
| 1893 | 303 | 103 | 22 | ..... | 428 |
| 1894 | 349 | 117 | 2 | ..... | 468 |
| 1895 | 380 | 120 | 1 | 30 | 531 |
| 1896 | 331 | 124 | 15 | 91 | 561 |
| 1897 | 321 | 113 | 18 | 81 | 533 |
| 1898 | 305 | 110 | 19 | 86 | 520 |
| 1899 | 318 | 103 | 15 | 91 | 527 |
| 1900 | 328 | 97 | 30 | 102 | 557 |

The following table gives the number of destitute children in other public and private institutions during the ten years ended 1900 :—

| Year. | Randwick Asylum. | Benevolent Asylum. | Infants' Home, Ashfield. | State Children's Relief Department. | | Other Institutions. | Total. |
|---|---|---|---|---|---|---|---|
| | | | | Boarded out. | In Cottage Homes. | | |
| 1891 | 183 | 147 | 52 | 1,389 | 122 | 23 | 1,916 |
| 1892 | 176 | 153 | 60 | 1,464 | 143 | 558 | 2,554 |
| 1893 | 172 | 119 | 42 | 1,741 | 153 | 579 | 2,806 |
| 1894 | 148 | 83 | 59 | 1,948 | 146 | 842 | 3,226 |
| 1895 | 146 | 135 | 50 | 2,266 | 162 | 857 | 3,616 |
| 1896 | 146 | 147 | 43 | 2,488 | 152 | 879 | 3,855 |
| 1897 | 155 | 116 | 55 | 2,434 | 147 | 925 | 3,832 |
| 1898 | 158 | 82 | 41 | 2,379 | 143 | 1,147 | 3,950 |
| 1899 | 149 | 111 | 63 | 2,348 | 151 | 1,084 | 3,906 |
| 1900 | 131 | 87 | 48 | 2,300 | 149 | 1,049 | 3,764 |

For the first five years shown in the foregoing statement the number of destitute children averaged 2,824 per annum, or 2·33 per thousand of the total population; while for the last five years the yearly average was 3,861, or 2·92 per thousand. The actual increase of destitute

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children, however, is not so great as these figures show, for in the early part of the period the returns received from the private institutions were not so complete as they are now.

The appended table shows the number of children under 15 years of age maintained in reformatories and in charitable institutions of a public and private character at the end of 1900. In the figures relating to Government asylums are included the 2,478 children supported by the State Children's Relief Department :—

| Institutions. | Children. |
|---|---|
| Government | 3,287 |
| Public | 245 |
| Church of England | 87 |
| Roman Catholic Church | 662 |
| Wesleyan | 22 |
| Salvation Army | 18 |
| Total | 4,321 |

The number of children supported by public and private charity at the end of 1896 was 4,416, so that there was a decrease of 95 during the five years. The deaths of children in charitable institutions in 1900 numbered 140, the total for 1896 being 171. In the number for each year the deaths of boarded-out children are included.

## Destitute Adults.

The number of destitute adults, or persons 15 years of age and over, who were inmates of the various asylums of the state at the close of the year 1900, was 5,068, of whom 3,579 were males, and 1,489 females The great majority of those in the asylums are persons of very advanced years who are unable to work. The inmates of the Benevolent Asylum, Sydney, however, and of a number of similar institutions, form an exception to this rule, as a large proportion of them are destitute women who use the institutions as lying-in hospitals. The numbers of males and females in the various institutions, with the ratio per 1,000 of adult population at the close of each of the past ten years, are appended. In the earlier years the returns may not have been quite complete ; but when every allowance has been made on this score, it must be confessed that there has been a serious increase in the number of admittedly destitute persons since 1891. As far as the metropolis is concerned, it appears that there are several small societies in existence receiving Government aid, the work of which might well be carried on by one efficiently-managed organisation, and there is doubtless a certain amount of overlapping and imposition. In connection with the subject of Government aid to charitable societies it may be remarked that there are no means of ascertaining whether the expenditure is judiciously controlled. The Metropolitan Charities Association, formed in 1897, made some attempt at organisation of charitable aid but being a purely

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voluntary body and having no state recognition, its efforts were not attended with any great success. Meanwhile, as will be seen from the figures given on page 536, New South Wales has a larger proportion of indoor paupers than Scotland, and it is not far below that of England and Wales, although in the United Kingdom there is, of course, a large amount of systematic outdoor relief :—

| Year. | Males. | Females. | Total. | Per 1,000 of Adult Population. | | |
|---|---|---|---|---|---|---|
| | | | | Male. | Female. | Total. |
| 1891 | 2,239 | 850 | 3,089 | 5·5 | 2·7 | 4·3 |
| 1892 | 2,827 | 1,078 | 3,905 | 6·8 | 3·3 | 5·3 |
| 1893 | 2,915 | 1,077 | 3,992 | 6·8 | 3·3 | 5·3 |
| 1894 | 2,744 | 1,171 | 3,915 | 6·3 | 3·4 | 5·1 |
| 1895 | 3,004 | 1,247 | 4,251 | 6·7 | 3·6 | 5·3 |
| 1896 | 2,935 | 1,230 | 4,165 | 6·5 | 3·5 | 5·2 |
| 1897 | 3,438 | 1,441 | 4,879 | 7·5 | 4·0 | 5·9 |
| 1898 | 3,501 | 1,393 | 4,894 | 7·6 | 3·8 | 5·9 |
| 1899 | 3,606 | 1,476 | 5,082 | 7·9 | 4·0 | 6·0 |
| 1900 | 3,579 | 1,489 | 5,068 | 7·8 | 3·9 | 6·0 |

The following shows the number of adults remaining in the various Benevolent Asylums at the close of the years 1891 to 1900 :—

| Year. | Sydney (Pitt-street). | Newington. | Liverpool. | Parramatta. | | | Rookwood. | West Maitland. | Newcastle. | Other Asylums. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | George-street. | Mac-quarie-st. | Cottage Homes. | | | | | |
| 1891 | 103 | 491 | 793 | 938 | 284 | 62 | ... | 44 | 34 | 340 | 3,089 |
| 1892 | 110 | 519 | 836 | 1,000 | 312 | 43 | ... | 51 | 41 | 993 | 3,905 |
| 1893 | 65 | 577 | 887 | 984 | 332 | 43 | 202 | 53 | 40 | 809 | 3,992 |
| 1894 | 66 | 639 | 785 | 995 | 321 | 43 | 379 | 42 | 40 | 605 | 3,915 |
| 1895 | 105 | 637 | 844 | 1,076 | 296 | 44 | 427 | 46 | 39 | 737 | 4,251 |
| 1896 | 105 | 662 | 779 | 982 | 345 | 44 | 563 | 48 | 39 | 598 | 4,165 |
| 1897 | 88 | 666 | 1,093 | 1,050 | 371 | 43 | 585 | 43 | 46 | 894 | 4,879 |
| 1898 | 58 | 725 | 910 | 1,186 | 380 | 44 | 666 | 40 | 60 | 825 | 4,894 |
| 1899 | 63 | 819 | 957 | 1,146 | 366 | 22 | 764 | 40 | 65 | 840 | 5,082 |
| 1900 | 57 | 851 | 844 | 942 | 359 | 42 | 1,055 | 34 | 57 | 827 | 5,068 |

The Liverpool Asylum and the two large institutions at Parramatta are homes for males ; the Benevolent Asylum, Sydney, is for females ; and the institution at Newington is used chiefly for persons of this sex. Old and indigent married couples have the use of the Cottage Homes, Parramatta, which were opened in March, 1889. Owing to the asylums at Liverpool and Parramatta becoming overcrowded, the Government, during the latter part of 1892, decided to utilise the buildings erected at Rookwood several years previously, and intended for a reformatory for boys, though never used for that purpose ; consequently, in March,

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1893, the premises were opened as an additional asylum for male inmates, of whom there were 202 in the institution at the close of the year, and this number had increased to 1,055 at the end of 1900.

In the following table will be found the number of adult male and female inmates of all charitable institutions from which information was received at the close of 1900 :—

| Institutions. | Males. | Females. | Total. |
|---|---|---|---|
| Government ..... | 3,297 | 810 | 4,107 |
| Public ..... | 171 | 257 | 428 |
| Church of England ..... | 27 | 46 | 73 |
| Roman Catholic ..... | 50 | 304 | 354 |
| Salvation Army..... | 29 | 67 | 96 |
| Hebrew ..... | 8 | 2 | 10 |
| Total ..... | 3,582 | 1,486 | 5,068 |

This total is 14 less than the figures for the previous year, which stood at 5,082, the highest yet recorded. During 1900 the deaths of 893 adults took place in the various institutions.

Adding together the numbers of adults and children in order to show the proportion, as compared with the whole population, of the destitute in the state, the ratios per 1,000 for the last ten years are found to be as follow :—

| Year. | Children. | Adults. | Total. | Per 1,000 of — | | |
|---|---|---|---|---|---|---|
| | | | | Children under 15 years. | Adult Population. | Total Population. |
| 1891 | 2,258 | 3,089 | 5,347 | 5·1 | 4·3 | 4·6 |
| 1892 | 2,935 | 3,905 | 6,840 | 6·3 | 5·3 | 5·7 |
| 1893 | 3,234 | 3,992 | 7,226 | 6·8 | 5·3 | 5·9 |
| 1894 | 3,694 | 3,915 | 7,609 | 7·7 | 5·1 | 6·1 |
| 1895 | 4,147 | 4,251 | 8,398 | 8·4 | 5·3 | 6·5 |
| 1896 | 4,416 | 4,165 | 8,581 | 8·8 | 5·2 | 6·6 |
| 1897 | 4,365 | 4,879 | 9,244 | 8·6 | 5·9 | 7·0 |
| 1898 | 4,470 | 4,894 | 9,364 | 8·6 | 5·9 | 7·0 |
| 1899 | 4,340 | 5,082 | 9,422 | 8·4 | 6·1 | 7·0 |
| 1900 | 4,321· | 5,068 | 9,389 | 8·3 | 6·0 | 6·9 |

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It will be seen from the above table that the proportion of indoor paupers has remained fairly constant during the past four years, but although still small compared with the rate of Ireland, it is now about equal to that of England and Wales, and in excess of that of Scotland. The proportion of population in the United Kingdom maintained in the workhouses and other institutions of a similar character at the cost of the ratepayers was as follows at the beginning of the year 1900:—

| | |
|---|---|
| England and Wales | 6·8 per thousand. |
| Scotland | 5·1 ,, |
| Ireland | 9·7 ,, |
| United Kingdom | 6·9 ,, |

as against 6·9 per thousand in New South Wales dependent upon the state and private charity for support. There is, of course, a large amount of outdoor relief in the United Kingdom which is not included in these figures. If this were taken into consideration the proportions would be:—England and Wales, 24·8 per thousand; Scotland, 23·1; Ireland, 23·1; and the United Kingdom, 24·5 per thousand.

The receipts and disbursements of the charitable institutions in the state during the year 1900 were as shown below. The figures do not include the money received and expended by several denominational institutions the financial condition of which is not made public:—

| Receipts:— | £ | Disbursements:— | £ |
|---|---|---|---|
| Government aid | 125,368 | Buildings and repairs | 9,406 |
| Private contributions | 25,044 | Maintenance (including salaries) | 148,044 |
| Other sources | 29,630 | Other expenses | 15,737 |
| Total | £180,042 | Total | £173,187 |

## Treatment of the Insane.

The treatment of the insane is dealt with under the head of Vital Statistics. The average number of insane persons resident in hospital during 1900 was 4,174, while the total number under care was 5,236. These numbers include those resident at the three licensed houses for the insane at Cook's River, Picton, and Ryde. The gross expenditure on hospitals for insane, wholly supported by the state, during 1900, was £115,790, while the collections from private sources amounted to £17,600, leaving a net cost to the Government of £98,190. The average weekly cost per patient was 10s. 9½d., without deducting collections, and 9s. 2d. after these were deducted, while the net annual expenditure per head of population was 1s. 5d. The total expenditure by the state on all institutions connected with the care of the insane, inclusive of the cost of maintenance of patients in the Reception House, Darlinghurst, of the amount paid to the South Australian Government for the maintenance of insane patients from the Broken Hill District, and of general

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expenses, was £121,452, and the total collections amounted to £17,839, so that the actual expenditure during the year was £103,613. The arrangement by which a number of Government patients were maintained at the licensed house at Cook's River ceased at the end of 1894. A few weeks previously all the Government patients were removed to the public institutions, the majority being sent to Rydalmere, where new wards had been erected; thus, at that date, for the first time for twenty-eight years, the whole of the patients under the care of the Government were housed within the walls of its own institutions. The treatment meted out to the insane is that dictated by the greatest humanity, and the hospitals are fitted with all conveniences and appliances which modern science points out as most calculated to mitigate or remove the affliction under which these unfortunates labour.

### Protection of the Aborigines.

A Board is in existence for the protection of the aborigines, the object of which is to ameliorate the condition of the blacks, and to exercise a general guardianship over them. There are also seven stations for the benefit of the aborigines. These are Cumeroogunga, on the river Murray; Warangesda, on the Murrumbidgee,; Brewarrina, on the Darling; Brungle, near Gundagai; Grafton; Lismore; and Wallaga Lake, near Bermagui. The three first-named stations were formerly under the control of a society called the Aborigines' Protection Association, who were responsible to the Board for their administration. This association was dissolved a few years ago, and some of the members of its Council were appointed to the Board. The natives at these settlements are comfortably housed, and are encouraged to devote their energies to agricultural and kindred occupations, and elementary education is imparted to the children.

The amount expended by the Government during 1900 for the benefit of the aborigines was £17,849. This included an expenditure of £9,128 by the Board on aborigines generally; £505 in connection with the Home for Aborigines at Grafton; £228 for the fares of aborigines travelling on the railway; and £2,966 in connection with the Cumeroogunga, Warangesda, and Brewarrina aboriginal stations. The sum of £973 was expended on medical attendance and medicine; £1,098 on school buildings, books, etc.; £2,666 on blankets, clothing, etc.; £49 for burial expenses; and £75 for salaries. The aborigines are referred to at length in the chapter on Population.

### Total Expenditure on Charity.

The total expenditure of the state in connection with all forms of relief and in aid of hospitals, asylums for the insane, and other charitable institutions, amounted in 1900 to £487,736; adding to this the amount of private subscriptions, donations, and other receipts of hospitals, etc.,

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the poor and the unfortunate benefited during the year to the extent of about £662,000. This sum, though not excessive in proportion to the population, appears to be large in view of the general wealth of the state, which should preclude the necessity of so many seeking assistance.

### Government Labour Bureau.

Owing to the stoppage of public and private works consequent upon depression in the money market, there were, in the latter part of 1891, a large number of persons in the state who, though able and willing to work, were unable to find employment. So great an amount of this kind of distress was in existence that the Government felt compelled to take steps for the purpose of helping genuine workers to the employment they were desirous of obtaining; and in February, 1892, a Labour Bureau was formed, where those who wanted work done could obtain labour, and those who desired to work could obtain particulars as to the demand in their respective callings. No charge is made for registration, and the matter of wages is left to be settled between the parties concerned. Up to the end of June, 1901, the number of men for whom employment was found by the Head Office and its branches totalled 107,325.

### Labour Commission.

In 1900 a Commission, consisting of four members, was appointed to inquire into all matters in connection with labour not absorbed by private enterprise, and to advise the Minister of Labour and Industry thereon. The Commission abolished the unsatisfactory system of balloting for employment, and initiated an excellent scheme of registration under which applicants have equal chances of securing work in fair rotation. Clerks of Petty Sessions act as labour agents in various parts of the state, and advise the Commissioners as to conditions of employment in their districts. In addition to providing labour for the unemployed certain concessions are made, such as reduced railway fares, supply of camping outfit at cost price, conveyance at Government expense to the scene of their work if distant more than 10 miles from the railway line, and various others.

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# RURAL SETTLEMENT.

EXCLUDING land held by the tenants of the Crown, there were in New South Wales, at the end of March, 1901, 69,439 holdings of 1 acre and upwards in extent. Twenty years previously such holdings numbered 39,992. The number increased during the period by over 73 per cent., while the area comprised in the holdings advanced from 24,193,318 acres to 46,043,244 acres, the increase representing over 90 per cent. The average area of alienated holdings gradually rose from 753 acres in 1882 to 770 acres in 1883; between 1884 and 1892 this average increased very little; while in 1893 the figures took a downward movement, falling to 663 acres in 1901. This decline in the average area is due to the increase in the number of small holdings, the advance in this respect having been pronounced since 1872. The following table gives the annual average for the last twenty years :—

| Year ended 31 March. | Average size of Holding. | Year ended 31 March. | Average size of Holding. |
|---|---|---|---|
| | acres. | | acres. |
| 1882 | 753 | 1892 | 784 |
| 1883 | 770 | 1893 | 750 |
| 1884 | 770 | 1894 | 748 |
| 1885 | 762 | 1895 | 707 |
| 1886 | 778 | 1896 | 699 |
| 1887 | 780 | 1897 | 688 |
| 1888 | 778 | 1898 | 666 |
| 1889 | 795 | 1899 | 664 |
| 1890 | 787 | 1900 | 662 |
| 1891 | 780 | 1901 | 663 |

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The subjoined table shows the number of holdings in different classes at various terms of the period named :—

| Area. | Year ended 31st March. | | | | | |
|---|---|---|---|---|---|---|
| | 1880. | 1885. | 1890. | 1895. | 1900. | 1901. |
| | No. | No. | No. | No. | No. | No. |
| Under 16 acres | 4,974 | 5,409 | 7,290 | 12,301 | 16,631 | 17,266 |
| 16 to 200 acres | 21,302 | 20,998 | 22,048 | 25,707 | 28,971 | 29,225 |
| 201 to 400 acres | 6,199 | 6,363 | 6,774 | 8,299 | 8,780 | 8,851 |
| 401 to 1,000 acres | 4,964 | 6,497 | 6,849 | 7,569 | 8,132 | 8,351 |
| 1,001 to 2,000 acres | 1,212 | 1,886 | 2,191 | 2,475 | 2,728 | 2,811 |
| 2,001 to 10,000 acres | 940 | 1,413 | 3,910 | 2,013 | 2,162 | 2,232 |
| 10,001 and upwards | 327 | 513 | 658 | 656 | 694 | 703 |
| Total | 39,918 | 43,079 | 49,720 | 59,020 | 68,098 | 69,439 |

The holdings under 16 acres in extent are, generally speaking, in the vicinity of towns, and consist mainly of gardens or orchards, and the large increase in their number is what would naturally be expected from the growing demand for their produce by a large urban population. The least satisfactory feature in the table is the fact that the number of holdings of moderate size does not greatly increase. In 1880 the holdings having an area from 16 to 400 acres numbered 27,501, while in 1901 they numbered 38,076, showing an advance of only 38 per cent. On the other hand, the larger holdings have increased at considerably more than twice that rate: for the year ending 31st March, 1901, there were 14,097 holdings of 401 acres and upwards in extent, compared with 7,443 in 1880, or an increase of 89 per cent. in number during that short period. The area of holdings, as returned by occupiers, in every fifth year since 1880, and in 1901, is given below :—

| Year ended 31st March. | Total Area of Holdings. |
|---|---|
| | acres. |
| 1880 | 22,721,603 |
| 1885 | 32,843,317 |
| 1890 | 37,497,889 |
| 1895 | 41,736,073 |
| 1900 | 45,086,209 |
| 1901 | 46,043,244 |

The area of unenclosed land in 1880 amounted to rather more than one-fifth of the total extent of the holdings; but in the beginning

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of 1901, the area unenclosed was only 1,489,763 acres, being but 3 per cent. of the total area occupied. This result is due partly to the operation of legislation, and partly to the saving of labour which fencing enables occupiers to effect.

For the purpose of an examination of the statistics showing the present state of the settlement of alienated land in New South Wales, it is found convenient to extend the inquiry successively to the various parts of the state in the order in which they were opened up, following the march of settlement in each of the four zones into which the country may be geographically divided, viz., the coast, the tableland, the western slope of the Great Dividing Range, and the western plains. Each zone, having its own special character, offers to the settler different natural resources according to its climatic conditions. Proceeding from the metropolis as a centre, settlement extended first along the coast, then to the central and more readily accessible parts of the tableland, following afterwards the course of the great inland rivers towards the southern and western parts of the state; thence to the great plains of the west, spreading slowly across the River Darling to the confines of the territory. Nature assisted by legislation contributed to the shaping of settlement into its present form—the natural course of events, however, being at times interrupted by sudden rushes of population to points scattered over the surface of the country, even to its remotest extremities.

## Metropolitan District.

That part of the county of Cumberland which embraces the area of the metropolis and its suburbs is outside the limits of this examination, as it is not intended to inquire into the present condition of urban settlement; but it may be stated, nevertheless, that as regards the subdivision and the distribution of landed property in the city and suburbs of Sydney there is now little difference between this and much older communities. The figures given below refer only to rural settlement in the remaining portion of this county, where the first attempts to colonise were made. It will be seen from the table, in which these holdings are distributed into series of various areas, that there are five distinct classes of holders of alienated land, viz.:—(1) Persons who occupy their own freeholds; (2) persons occupying holdings which they rent from the freeholders; (3) owners of land who rent from other private owners lands which they work in addition to their own freeholds; (4) persons who, in addition to their freehold, rent from the Crown areas which are generally devoted to the depasturing of stock; and (5) persons who, in addition to working their freehold, are both Crown and private tenants. In some districts the system of working on shares is to some extent in vogue; the owner

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finding the land and capital to work the farms, and the other party the labour. This system has not yet attained sufficient importance to warrant a special record of the particulars regarding the land worked under it:—

| Police Districts of the County of Cumberland. | Occupiers of— | | | | | | Area alienated. | | |
|---|---|---|---|---|---|---|---|---|---|
| | Freehold. | Private Rented. | Partly Freehold and partly Private Rented. | Freehold with Crown lands attached. | Partly Freehold, partly Private Rented, and partly Crown lands. | Total. | Freehold. | Private Rented. | Total. |
| | No. | No. | No. | No. | No. | No. | acres. | acres. | acres. |
| Metropolitan | 2,073 | 1,407 | 88 | 4 | .... | 3,572 | 38,938 | 16,834 | 55,772 |
| Ryde | 1,018 | 152 | 48 | .. | .... | 1,218 | 24,847 | 2,628 | 27,475 |
| Parramatta | 1,199 | 239 | 70 | 2 | .... | 1,510 | 40,936 | 20,496 | 61,432 |
| Liverpool | 894 | 351 | 55 | .. | .... | 1,290 | 40,267 | 34,302 | 74,569 |
| Camden (*part of*) | 75 | 47 | 19 | .. | .... | 141 | 15,456 | 19,634 | 35,090 |
| Campbelltown | 212 | 115 | 47 | 1 | .... | 375 | 30,197 | 21,149 | 51,346 |
| Wollongong (*part of*) | 67 | 21 | 10 | .. | 2 | 100 | 10,759 | 2,133 | 12,892 |
| Windsor (*part of*) | 544 | 210 | 56 | 4 | .... | 814 | 45,884 | 19,416 | 65,300 |
| Penrith (*part of*) | 700 | 260 | 83 | 1 | .... | 1,044 | 52,518 | 64,091 | 116,609 |
| Total | 6,772 | 2,802 | 476 | 12 | 2 | 10,064 | 299,802 | 200,683 | 500,485 |

In this part of New South Wales, outside towns and purely suburban areas, 500,485 acres are alienated in holdings ranging from 1 acre upwards. Of this area, 299,802 acres, or 59·90 per cent., are in the occupancy of the owners of the land; whilst 200,683 acres, or 40·10 per cent., are leased to tenant occupiers. There are 6,772 persons occupying their own freeholds, 2,802 tenants of private land, 476 persons who both own and rent from private persons portions of their holdings, and twelve owners of freehold with Crown lands attached. The area of alienated land enclosed in this district is 435,480 acres; and unenclosed, 65,005 acres. The area in cultivation is 47,115 acres. Persons working their own land cultivate 34,834 acres; and occupiers of private rented land, 12,281 acres.

From the number of rural landholders in the district it is clearly seen that the average area held by each cannot be very large. In the Police District of Camden it reaches 249 acres; in Campbelltown Police District, 137 acres; in Wollongong, 129; and in Penrith, 112 acres. In Windsor and in Liverpool the average is 80 and 58 respectively; in Parramatta, 41; while for Ryde it is only 23, and for the Metropolitan

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Police District only 16. The average area for the whole division is 50 acres per holding.

The holdings in this division may be classified as follows :—

| Size of Holdings. | Alienated Holdings. | Area of Holdings. | | Area in Cultivation. | |
|---|---|---|---|---|---|
| | | Total. | Proportion to Total Area alienated in District. | Total. | Proportion to Area of Holdings. |
| | No. | acres. | per cent. | acres. | per cent. |
| 1 to 30 acres ..... | 7,700 | 60,640 | 12·12 | 17,503 | 28·86 |
| 31 to 400 acres ..... | 2,152 | 199,033 | 39·77 | 24,173 | 12·14 |
| 401 to 1,000 acres ..... | 141 | 89,370 | 17·85 | 2,867 | 3·21 |
| 1,001 acres and upwards | 71 | 151,442 | 30·26 | 2,572 | 1·69 |
| Total ..... .. | 10,064 | 500,485 | 100·00 | 47,115 | 9·41 |

There are 36 lessees of Crown lands occupying an area of 4,127 acres, 288 acres being held under conditional lease, and 3,839 acres under other forms of tenure. The area enclosed is 1,106 acres, and unenclosed 3,021 acres; and there are only 37 acres in cultivation. The value of improvements on Crown lands in this district is returned at £4,530. The total area of alienated land and Crown lands occupied is 504,612 acres. Deducting the area cultivated—47,152 acres—it will be seen that the area used for grazing, dairying, and other purposes is 457,460 acres.

The total area of the district is 1,006,720 acres. The figures regarding alienation given above do not include holdings under 1 acre, and as this division includes the metropolitan district, an addition of rather more than 200,000 acres must be made to the alienated area on this account, thus bringing the occupied area up to 705,000 acres, so that the actual area of Crown lands unoccupied is not more than 301,000 acres, including 80,600 acres of reserves, and much land that is of no practical use.

## Lower Hunter District.

From the county of Cumberland settlement advanced westward, and after the alluvial lands of the Hawkesbury and Nepean valleys had been occupied and covered with prosperous farms, the lower portion of the valley of the river Hunter, abounding with natural resources, mineral as well as agricultural, soon attracted settlers, and at the present time more population is concentrated in this district than in any other part of New South Wales outside the metropolitan area. The following

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table indicates the actual state of rural settlement in the Lower Hunter district. The county of Gloucester does not wholly belong to this district, but the southern and more important part of the county is properly embraced therein :—

| Counties. | Occupiers of— | | | | | | | Area alienated. | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Freehold. | Private Rented. | Partly Freehold and partly Private Rented. | Freehold with Crown lands attached. | Private Rented with Crown lands attached. | Partly Freehold, partly Private Rented, and partly Crown lands. | Total. | Freehold. | Private Rented. | Total. |
| | No. | No. | No. | No. | No. | No. | No. | acres. | acres. | acres. |
| Gloucester..... | 786 | 296 | 126 | 182 | 12 | 17 | 1,419 | 439,193 | 197,673 | 636,866 |
| Durham ..... | 708 | 725 | 163 | 153 | 11 | 27 | 1,787 | 605,857 | 238,443 | 844,300 |
| Northumberland | 1,837 | 1,219 | 245 | 54 | 6 | 11 | 3,372 | 351,849 | 206,358 | 558,207 |
| Total..... | 3,331 | 2,240 | 534 | 389 | 29 | 55 | 6,578 | 1,396,899 | 642,474 | 2,039,373 |

This division contains a total area of 4,869,480 acres, of which 2,039,373 acres, or 42 per cent., are alienated among 6,578 landholders, so that the average area of holdings in this part of the state is 310 acres. Of the area thus alienated, 1,396,899 acres, or 68·50 per cent., are in the occupancy of the owners of the land; and 642,474 acres, or 31·50 per cent., are occupied by private tenants. The proportion of land held by freeholders is considerable, ranging from 71·76 per cent. in Durham to 63·03 per cent. in Northumberland. It will be seen on reference to the table that the proportion of land held by tenant occupiers is small compared with the total alienated area, only 31·50 per cent. being leasehold.

The total number of occupiers is returned at 6,578 for the whole district. Of these, 3,331 occupy their own freeholds; 2,240 are private tenants; 534 rent various private areas in addition to their own land; 389 occupy, together with their freeholds, a certain area of Crown lands on lease; 29 occupy holdings a portion of which consists of private rented land and the other portion of Crown land; and 55 stand in the position of being the possessors of freehold, with both private rented land and Crown lands attached. As before stated, the average area of holdings in this district is 310 acres, with a minimum of 166 acres in the county of Northumberland, and a maximum of 472 acres in that of Durham, while Gloucester has 449 acres per holding. The area of alienated land enclosed is 1,619,063 acres; and unenclosed, 420,310 acres. There are 67,607 acres in cultivation—36,999 acres of land occupied by the owners, and 30,608 acres of private rented land. The classification

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of the holdings in this division will be found below. The average area of the large estates in the last series is 27,367 acres :—

| Size of Holdings. | Alienated Holdings. | Area of Holdings. | | Area in Cultivation. | |
|---|---|---|---|---|---|
| | | Total. | Proportion to Total Area alienated in District. | Total. | Proportion to Area of Holdings. |
| | No. | acres. | per cent. | acres. | per cent. |
| 1 to 30 acres ..... | 2,088 | 21,478 | 1·05 | 8,783 | 40·89 |
| 31 to 400 acres ..... | 3,713 | 459,485 | 22·53 | 45,178 | 9·83 |
| 401 to 1,000 acres ..... | 465 | 288,560 | 14·15 | 7,038 | 2·45 |
| 1,001 to 10,000 acres ... | 293 | 749,875 | 36·77 | 5,667 | 0·76 |
| 10,001 acres and upwards | 19 | 519,975 | 25·50 | 941 | 0·18 |
| Total ..... | 6,578 | 2,039,373 | 100·00 | 67,607 | 3·32 |

The area of Crown lands occupied in this district is 416,593 acres, held by 582 lessees, 473 of whom have also alienated land. Of this area, 108,696 acres are held under conditional lease, and 307,897 acres under other forms of lease. The area enclosed is 240,538 acres ; and unenclosed, 176,055 acres. The area of Crown lands cultivated is 1,147 acres, chiefly in the county of Gloucester. The value of improvements is returned at £76,824, or an average of about 3s. 8d. per acre occupied.

The area of alienated land in holdings over 1 acre in extent and of Crown lands in occupation is 2,455,966 acres ; and deducting from this the area cultivated—68,754 acres—there remains an area of 2,387,212 acres used for grazing and dairying. The total area of the district embraced in this division being 4,869,480 acres, there remain unalienated and unoccupied about 2,382,000 acres of Crown lands, making allowance for small holdings under 1 acre not included in the figures given above.

### South Coast District.

In the earlier portion of last century settlement took a southerly direction from the metropolis, and extended rapidly along the lower valleys of the rivers of the South Coast, where the best lands were alienated in grants of large areas to a few families. Later on, however, the nature of the country and a more intelligent apprehension of the principles which should guide settlement brought about the subdivision of these large estates into numerous and comparatively small holdings, which are at present cultivated by a fairly prosperous tenantry. This is especially the case in the county of Camden. The average area of estates in Auckland and Dampier, owing to their distance from the metropolis, and perhaps also to the mountainous character of a considerable portion of the land within their boundaries, reaches 376 and 331 acres respectively ; but as the metropolis is approached the average area of the holdings decreases to 260 acres in St. Vincent and 170 acres in Camden, the average for the whole district being 231 acres per holding.



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In the South Coast district alienated rural lands are occupied in the manner illustrated in the following table :—

| Counties. | Occupiers of— | | | | | | | Area Alienated. | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Freehold. | Private Rented. | Partly Freehold and partly Private Rented. | Freehold with Crown lands attached. | Private Rented with Crown lands attached. | Partly Freehold, partly Private Rented, and partly Crown lands. | Total. | Freehold. | Private Rented. | Total. |
| | No. | No. | No | No. | No. | No. | No. | acres. | acres. | acres. |
| Camden ..... | 1,849 | 1,490 | 472 | 72 | 4 | 19 | 3,906 | 397,790 | 266,592 | 664,382 |
| St. Vincent .... | 691 | 345 | 149 | 148 | 8 | 42 | 1,383 | 260,285 | 98,872 | 359,157 |
| Dampier ..... | 331 | 120 | 54 | 86 | 4 | 9 | 604 | 165,326 | 34,360 | 199,686 |
| Auckland ..... | 518 | 181 | 96 | 113 | 10 | 19 | 937 | 291,876 | 60,476 | 352,352 |
| Total ..... | 3,389 | 2,136 | 771 | 419 | 26 | 89 | 6,830 | 1,115,277 | 460,300 | 1,575,577 |

The area of alienated land is shown to be 1,575,577 acres, or 30·27 per cent. of the total area—5,205,120 acres—of this portion of the state ; the extent of land occupied by the proprietors themselves being 1,115,277 acres, or 70·78 per cent. ; and of that leased to tenant occupiers, 460,300 acres, or 29·22 per cent. of the area alienated. There are altogether in these counties 3,389 occupiers of their own freeholds, 2,136 tenants of private rented lands, 771 persons occupying both their own and leased private lands, 419 occupiers of freehold with Crown lands attached, 26 persons occupying private rented lands with Crown lands attached, and 89 persons whose holdings are partly their own, partly leased from private owners, and partly belonging to the Crown—a total of 6,830 occupiers. The area of alienated land enclosed is 1,469,220 acres, leaving 106,357 acres unenclosed. The area in cultivation is 54,647 acres, of which 33,317 acres represent land occupied by the owners, and 21,330 acres land held under private tenancy.

The holdings in this division may be classified as under. The average area of large estates over 10,000 acres in extent is 13,677 acres :—

| Size of Holdings. | Alienated Holdings. | Area of Holdings. | | Area under Cultivation. | |
|---|---|---|---|---|---|
| | | Total. | Proportion to Total Area alienated in District. | Total. | Proportion to Area of Holdings. |
| | No. | acres. | per cent. | acres. | per cent. |
| 1 to 30 acres ..... | 1,992 | 15,486 | 0·98 | 2,233 | 14·42 |
| 31 to 400 acres ..... | 3,957 | 601,607 | 38·18 | 36,298 | 6·03 |
| 401 to 1,000 acres..... | 653 | 395,087 | 25·08 | 9,231 | 2·34 |
| 1,001 to 10,000 acres ..... | 221 | 467,659 | 29·68 | 4,677 | 1·00 |
| 10,001 acres and upwards.. | 7 | 95,738 | 6·08 | 2,208 | 2·31 |
| Total ..... | 6,830 | 1,575,577 | 100·00 | 54,647 | 3·47 |

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The area of Crown lands occupied is 753,155 acres, 84,801 acres being held under conditional lease. The area enclosed is 184,906 acres; and unenclosed, 568,249 acres. The cultivated area is 562 acres—nearly all in the counties of St. Vincent and Auckland. The total number of lessees is 645, of whom 111 occupy Crown lands only; and the value of improvements on Crown lands is returned at £46,586, or an average of about 1s. 3d. per acre occupied. This average may seem low, but is accounted for by the fact that a large area is unenclosed, especially in county Auckland.

The area of alienated land and Crown lands occupied is 2,328,732 acres, and, deducting the 55,209 acres cultivated, there are 2,273,523 acres used for grazing and dairying and other purposes. The total area of the counties comprising this district being 5,205,120 acres, the area neither alienated nor under occupation, making allowance for alienated holdings under 1 acre in extent, which are not included above, will be about 2,736,000 acres.

## North Coast District.

In the North Coast district the occupation of the country has extended rapidly of late years along the banks of the fine rivers which empty into the Pacific Ocean. Figures regarding alienated holdings in this district will be found below :—

| Counties. | Occupiers of— | | | | | | | Area alienated. | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Freehold. | Private Rented. | Partly Freehold and partly Private Rented. | Freehold with Crown lands attached. | Private Rented with Crown lands attached. | Partly Freehold, partly Private Rented, and partly Crown lands. | Total. | Freehold. | Private Rented. | Total. |
| | No. | No. | No. | No. | No. | No. | No. | acres. | acres. | acres. |
| Rous | 1,632 | 834 | 153 | 77 | 7 | 14 | 2,717 | 523,403 | 107,860 | 631,263 |
| Richmond | 268 | 164 | 31 | 57 | 6 | 6 | 532 | 160,336 | 26,533 | 186,869 |
| Clarence | 791 | 590 | 148 | 96 | 26 | 33 | 1,684 | 155,151 | 71,775 | 226,926 |
| Fitzroy | 278 | 55 | 20 | 95 | 6 | 5 | 459 | 104,571 | 11,184 | 115,755 |
| Raleigh | 424 | 154 | 27 | 57 | 5 | 4 | 671 | 62,445 | 18,556 | 81,001 |
| Dudley | 280 | 304 | 73 | 48 | 9 | 9 | 723 | 94,826 | 46,691 | 141,517 |
| Macquarie | 871 | 565 | 110 | 93 | 6 | 11 | 1,656 | 213,976 | 98,995 | 312,971 |
| Total | 4,544 | 2,666 | 562 | 523 | 65 | 82 | 8,442 | 1,314,708 | 381,594 | 1,696,302 |

Of all the districts of New South Wales, the North Coast counties exhibit the best and most satisfactory results as regards settlement. Nowhere has the great object of the Act of 1861—to place an industrious farming population on the soil—been better fulfilled. The total number of land-holders is 8,442, of whom only 2,666 are private tenants, and 65 rent Crown lands in addition to lands owned by private persons; while 4,544 occupy their own freeholds, 562 work both their own land and additional areas rented from private owners, 523 occupy areas of Crown lands together with their freeholds, and 82 add to their

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own lands areas leased from private persons and also from the state. The total area alienated in this rich part of the state amounts to 1,696,302 acres, or only 24·48 per cent. of the total extent of the district, which covers 6,928,000 acres; and the average area of holdings is 201 acres, ranging from 121 acres in Raleigh to 351 acres in Richmond. The proportion of leasehold lands to the area alienated is comparatively small, there being only 381,594 acres so held, or 22·50 per cent. of the total alienated area; whilst 1,314,708 acres, or 77·50 per cent., are in the occupancy of the owners of the land themselves. In the counties of Richmond and Fitzroy the area leased by private persons forms only 14·20 and 9·66 per cent. respectively of the area alienated; and the maximum is reached in Dudley, where 32·99 per cent. of the settled rural land is occupied by tenants. The area enclosed is 1,382,937 acres, or about 81·53 per cent. of the total; and the area unenclosed is 313,365 acres. The extent of land in cultivation is 134,031 acres, of which 80,203 acres are cultivated by the owners, and 53,828 acres by private tenants.

The holdings in this division may be classified as under. The average area of large estates of over 10,000 acres in extent is 27,356 acres :—

| Size of Holdings. | Alienated Holdings. | Area of Holdings. | | Area in Cultivation. | |
|---|---|---|---|---|---|
| | | Total. | Proportion to Total Area alienated in District. | Total. | Proportion to Area of Holdings. |
| | No. | acres. | per cent. | acres. | per cent. |
| 1 to 30 acres ..... | 1,497 | 14,641 | 0·86 | 6,312 | 43·11 |
| 31 to 400 acres ..... | 6,196 | 772,562 | 45·55 | 108,934 | 14·10 |
| 401 to 1,000 acres ..... | 586 | 356,921 | 21·04 | 13,894 | 3·89 |
| 1,001 to 10,000 acres .... | 155 | 333,329 | 19·65 | 4,670 | 1·40 |
| 10,001 acres and upwards | 8 | 218,849 | 12·90 | 221 | 0·10 |
| Total ..... | 8,442 | 1,696,302 | 100·00 | 134,031 | 7·90 |

The area of Crown lands occupied is 2,409,475 acres, held by lessees to the number of 757, of whom 670 occupy Crown lands in conjunction with alienated holdings, and 87 occupy Crown lands only. The area under conditional lease is 176,628 acres; and under all other forms of lease, 2,232,847 acres. The extent of Crown lands enclosed is 444,545 acres; and unenclosed, 1,964,930 acres. The area cultivated is 1,183 acres; and the value of improvements is returned as £43,115, or about 5d. per acre occupied, this small average being accounted for by the fact that so large an area remains unenclosed.

The area of alienated land and Crown lands occupied is 4,105,777 acres, and deducting from this the area cultivated—135,214 acres—there remains an area of 3,970,563 acres used for grazing and dairying and other purposes. The total area of the division being 6,928,000 acres, the area unalienated and unoccupied, making allowance for alienated holdings under 1 acre, which are not included above, will be about 2,699,000 acres, a large portion of which is, however, unfit for settlement.

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From the foregoing a fairly clear idea may be obtained of the present state of rural settlement in the valleys of the coastal rivers, and in the country extending from the sea to the first slopes of the Great Dividing Range. Geographical features and climate are the main elements in determining the occupation of the soil, irrespective of administrative boundaries. In this part of the state the settlement of the public lands has proceeded in a way very different from that of the tableland, which extends from north to south, and divides the rich agricultural valleys of the coastal rivers and their broken mountainous watershed from the immense plains of the western district.

## Central Tableland.

After the difficulties between the coast and the interior had been overcome, the pioneers of settlement penetrated to the central tableland, thence extending to the south and the north, and afterwards gradually spreading over the whole of the great western interior. At first they followed the courses of the great rivers, and occupied, little by little, all the available land, until at the present time only very inferior country remains untenanted.

The central tableland, comprising the counties grouped around the cities of Bathurst, Orange, and Mudgee, was the first settled, and the occupation of the alienated lands at the present time is illustrated by the figures given in the following table :—

| Counties. | Occupiers of— | | | | | | | Area alienated. | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Freehold. | Private Rented. | Partly Freehold and partly Private Rented. | Freehold with Crown lands attached. | Private Rented with Crown lands attached. | Partly Freehold, partly Private Rented, and partly Crown lands. | Total. | Freehold. | Private Rented. | Total. |
| | No. | No. | No. | No. | No. | No. | No. | acres. | acres. | acres. |
| Brisbane | 415 | 106 | 65 | 182 | 5 | 23 | 796 | 786,632 | 71,275 | 857,907 |
| Bligh | 170 | 37 | 16 | 255 | 6 | 24 | 508 | 512,018 | 46,027 | 558,045 |
| Phillip | 393 | 127 | 30 | 214 | 20 | 20 | 804 | 294,489 | 30,435 | 324,924 |
| Wellington | 624 | 229 | 67 | 290 | 11 | 18 | 1,239 | 350,942 | 35,802 | 386,744 |
| Roxburgh | 398 | 149 | 55 | 185 | 15 | 37 | 842 | 215,566 | 92,563 | 308,129 |
| Hunter | 130 | 55 | 34 | 32 | 3 | 16 | 270 | 121,426 | 16,110 | 137,536 |
| Cook | 1,186 | 209 | 127 | 41 | 1 | 12 | 1,576 | 155,454 | 36,878 | 192,332 |
| Westmoreland | 257 | 89 | 25 | 185 | 18 | 52 | 626 | 183,345 | 59,752 | 243,097 |
| Georgiana | 221 | 80 | 28 | 265 | 14 | 50 | 658 | 294,830 | 69,430 | 364,260 |
| Bathurst | 909 | 603 | 152 | 141 | 18 | 39 | 1,862 | 626,056 | 182,380 | 808,436 |
| Total | 4,703 | 1,684 | 599 | 1,793 | 111 | 291 | 9,181 | 3,540,758 | 640,652 | 4,181,410 |

From the foregoing table it will be seen that the number of holders of rural lands in this part of the state is 9,181, of whom 4,703 occupy

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their own freeholds; 1,684 are private tenants; 599 lease lands from private owners in addition to their own freeholds; 1,793 persons occupy areas of Crown lands, generally for grazing purposes, in addition to their own freeholds; 111 rent both private and Crown lands; and 291 are tenants both of private parties and the Crown, as well as possessing land of their own. The area alienated is 4,181,410 acres, representing 35·72 per cent. of the whole area of the district, which is computed at 11,706,240 acres. The proportion of land occupied by the landowners themselves is 84·68 per cent., or 3,540,758 acres; whilst 640,652 acres are leased to tenant occupiers. In the county of Roxburgh the proportion of land leased is considerable, 92,563 acres out of 308,129 acres alienated in this county, or 30·04 per cent., being held by tenants; and in Westmoreland and Bathurst, 59,752 acres and 182,380 acres respectively, or 24·58 and 22·56 per cent., are held in the same manner. The proportion in the remaining counties gradually diminishes from 19·17 per cent. in Cook, and 19·06 per cent. in Georgiana, to 11·71 per cent. in Hunter, and 8·25 per cent. in Bligh. On the central tableland are situated some of the finest freehold estates in New South Wales, the land having remained in the hands of the original grantees or their descendants, who consolidated their holdings by taking advantage of the auction sale and improvement clauses of the Land Act of 1861.

The average area of holdings in this division is 455 acres, ranging from a maximum of 1,098 acres in Bligh, and 1,078 acres in Brisbane, to a minimum of 312 acres in Wellington and 122 acres in Cook. The total area of alienated land enclosed is 4,094,229 acres, or 97·92 per cent., the area unenclosed being only 87,181 acres. The area cultivated is 232,158 acres—165,362 acres being land worked by the owners, and 66,796 acres by tenants.

The holdings in this division may be classified as under. The average area of large estates over 10,000 acres in extent is 25,234 acres :—

| Size of Holdings. | Alienated Holdings. | Area of Holdings. | | Area in Cultivation. | |
|---|---|---|---|---|---|
| | | Total. | Proportion to Total Area alienated in District. | Total. | Proportion to Area of Holdings. |
| | No. | acres. | per cent. | acres. | per cent. |
| 1 to 30 acres ..... ..... | 2,375 | 19,974 | 0·48 | 6,501 | 32·55 |
| 31 to 400 acres ..... | 5,216 | 769,877 | 18·41 | 127,220 | 16·52 |
| 401 to 1,000 acres.. ..... | 987 | 611,370 | 14·62 | 46,102 | 7·54 |
| 1001 to 10,000 acres..... | 550 | 1,442,800 | 34·51 | 37,415 | 2·59 |
| 10,001 acres and upwards | 53 | 1,337,389 | 31·98 | 14,920 | 1·12 |
| Total ..... | 9,181 | 4,181,410 | 100·00 | 232,158 | 5·55 |

The area of Crown lands occupied on the central tableland is 3,013,946 acres, of which 936 125 acres are held under conditional lease, 52,481

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acres under settlement lease, and 2,025,340 acres under other forms of lease. There are 2,572,334 acres enclosed, and 441,612 acres unenclosed. The number of lessees is 2,479, of whom 2,195 occupy Crown lands in addition to alienated holdings, and 284 occupy Crown lands only. The area cultivated is 1,982 acres, and the value of improvements is returned at £365,040—an average of about 2s. 5d. per acre occupied.

The area of alienated land and Crown lands occupied is 7,195,356 acres; and deducting from this the area in cultivation—234,140 acres—there remain 6,961,216 acres used for grazing and dairying and other purposes. The total area of the counties comprised in the district being 11,706,240 acres, the area neither alienated nor occupied, allowing for alienated holdings under 1 acre in extent, which are not included in the foregoing figures, will be about 4,342,000 acres.

## Southern Tableland.

The conditions of settlement in the southern tableland do not greatly differ from those which obtain in the central district, the principal feature being the greater proportion of holdings occupied by their proprietors. The following table illustrates the state of settlement in the various counties which comprise this portion of the state:—

| Counties. | Occupiers of— | | | | | | | Area Alienated. | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Freehold. | Private Rented. | Partly Freehold and partly Private Rented. | Freehold with Crown Lands attached. | Private Rented, with Crown Lands attached. | Partly Freehold, partly Private Rented, and partly Crown Lands. | Total. | Freehold. | Private Rented. | Total. |
| | No. | No. | No. | No. | No. | No. | No. | acres. | acres. | acres. |
| Monteagle | 616 | 68 | 30 | 86 | 5 | 10 | 815 | 521,560 | 39,936 | 561,496 |
| King | 495 | 169 | 55 | 304 | 17 | 38 | 1,078 | 572,492 | 102,399 | 674,891 |
| Argyle | 627 | 325 | 118 | 189 | 18 | 65 | 1,342 | 518,454 | 184,572 | 703,026 |
| Murray | 422 | 142 | 77 | 211 | 10 | 60 | 922 | 763,926 | 129,822 | 893,748 |
| Beresford | 162 | 70 | 18 | 154 | 1 | 15 | 420 | 325,923 | 17,147 | 343,070 |
| Cowley | 25 | 7 | 3 | 77 | 1 | 7 | 120 | 106,019 | 12,657 | 118,676 |
| Buccleuch | 120 | 94 | 13 | 110 | 3 | 3 | 343 | 198,283 | 11,548 | 209,831 |
| Wynyard | 610 | 220 | 50 | 123 | 6 | 17 | 1,026 | 559,994 | 57,069 | 617,063 |
| Selwyn | 122 | 26 | 10 | 58 | 2 | 3 | 221 | 247,960 | 11,823 | 259,803 |
| Wallace | 140 | 18 | 20 | 235 | 10 | 25 | 448 | 413,316 | 32,856 | 446,172 |
| Wellesley | 324 | 61 | 28 | 138 | 1 | 15 | 567 | 532,358 | 28,355 | 560,713 |
| Total | 3,663 | 1,200 | 422 | 1,685 | 74 | 258 | 7,302 | 4,760,305 | 628,184 | 5,388,489 |

Thus the land alienated in this part of the state comprises 5,388,489 acres, or 45·31 per cent. of the whole of its area, which contains 11,892,480 acres. Of this extent of land, only 628,184 acres, or 11·66 per cent. of the settled lands, are held in tenancy; whilst 4,760,305 acres, or 88·34 per cent., are occupied by the landowners themselves.

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The percentage of land held in tenancy is greatest in the counties of Argyle and King, where it is 26·25 and 15·17 respectively. There are 14·53 per cent. in Murray county, 10·67 in Cowley, 9·25 in Wynyard, and 7·36 in Wallace. In the other counties the proportion ranges from from 7·11 per cent. in Monteagle to 4·55 per cent. in the southern county of Selwyn.

In the whole of this district the total number of occupiers is 7,302, of whom 3,663 occupy their own freeholds; 1,200 are private tenants; 422 occupy both descriptions of alienated lands; 1,685 oocupy areas of Crown lands in addition to their freeholds; 74 occupy private rented lands with Crown lands attached; and 258 persons who possess freeholds also rent land from private owners and from the Crown. The conditions of settlement in which pastoral occupation is the leading feature must necessarily greatly affect the average extent of rural holdings, and in this division it will be found to attain fairly high proportions, 738 acres being the average throughout, with a maximum of 1,176 acres in Selwyn, and a minimum of 524 acres in Argyle. The area of alienated land enclosed is 5,333,209 acres; and unenclosed, 55,280 acres. The total extent in cultivation is 173,793 acres, viz., 144,757 acres worked by owners, and 29,036 acres by tenants. This is small in proportion to the area of the district; but it is on the large estates of the southern tableland that there has been the most notable increase in cultivation. The area cultivated on estates over 10,000 acres in extent, viz., 27,343 acres, has fallen considerably from that of last year, when it stood at 38,985 acres. The most notable decrease occurs in the county of Monteagle which shows a falling off of over 10,000 acres. This is chiefly due to the prices ruling being more favourable to wool growing than wheat cultivation. The average area of large estates over 10,000 acres in extent is 19,238 acres. The holdings in this division may be classified as under:—

| Size of Holdings. | Alienated Holdings. | Area of Holdings. | | Area in Cultivation. | |
|---|---|---|---|---|---|
| | | Total. | Proportion to Total Area alienated in District. | Total. | Proportion to Area of Holdings. |
| | No. | acres. | per cent. | acres. | per cent. |
| 1 to 30 acres ..... | 1,660 | 12,774 | 0·24 | 3,567 | 27·92 |
| 31 to 400 acres ..... | 3,710 | 578,483 | 10·73 | 54,286 | 9·38 |
| 401 to 1,000 acres ..... | 1,014 | 652,977 | 12·12 | 31,413 | 4·81 |
| 1,001 to 10,000 acres ... | 820 | 2,258,918 | 41·92 | 57,184 | 2·53 |
| 10,001 acres and upwards | 98 | 1,885,337 | 34·99 | 27,343 | 1·45 |
| Total..... | 7,302 | 5,388,489 | 100·00 | 173,793 | 3·23 |

The area of Crown lands occupied in the counties of the southern tableland is 4,158,566 acres, of which there are under conditional lease 1,142,119 acres. The area enclosed is 2,696,565 acres, and unenclosed 1,462,001 acres. The total number of lessees is 2,239, of

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whom 2,017 hold alienated lands also, and 222 occupy Crown lands only. The area cultivated on Crown lands is very small—only 1,940 acres. The value of improvements is returned at £385,010, or an average of about 1s. 4d. per acre occupied.

The area of alienated land and Crown land occupied is 9,547,055 acres, and deducting the area cultivated, 175,733 acres, there remain 9,371,322 acres devoted to grazing and dairying. The total area of the district is 11,892,480 acres, and making allowance for alienated holdings under 1 acre in extent, which are not included in the foregoing, there are left neither alienated nor occupied about 2,242,000 acres, which, of course, include land that is of no practical use.

## Northern Tableland.

In the northern tableland the disproportion between freeholders and tenants is strongly marked, the latter forming a very small minority of the occupiers of alienated lands, owing to the same causes which operate both in the south and in the centre of this great section of the state. It is evident that the object of the Land Act of 1861 to create a class of independent settlers has been fairly successful, notwithstanding the fact that the number of actual occupiers is small compared with that of the individual selectors who, since the year 1861, have applied for conditional purchases. The following figures illustrate the state of settlement in the part of the country in question:—

| Counties. | Occupiers of— | | | | | | | Area Alienated. | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Freehold. | Private Rented. | Partly Freehold and partly Private Rented. | Freehold with Crown Lands attached. | Private Rented with Crown Lands attached. | Partly Freehold, partly Private Rented, and partly Crown Lands. | Total. | Freehold. | Private Rented. | Total. |
| | No. | No. | No. | No. | No. | No. | No. | acres. | acres. | acres. |
| Buller | 65 | 7 | 2 | 79 | 1 | .. | 154 | 63,408 | 1,936 | 65,344 |
| Clive | 320 | 89 | 31 | 160 | 1 | 4 | 555 | 152,026 | 4,911 | 156,937 |
| Arawatta | 123 | 19 | 13 | 104 | 2 | .. | 261 | 250,528 | 15,744 | 266,272 |
| Gough | 507 | 117 | 35 | 213 | 3 | 13 | 888 | 508,418 | 29,721 | 538,139 |
| Drake | 14 | 8 | 3 | 16 | .. | .. | 41 | 117,986 | 1,488 | 119,474 |
| Gresham | 11 | .. | .. | 7 | .. | 1 | 19 | 19,126 | 470 | 19,596 |
| Clarke | 55 | 12 | .. | 133 | 3 | 4 | 207 | 128,099 | 4,061 | 132,760 |
| Hardinge | 127 | 26 | 12 | 210 | 6 | 11 | 392 | 273,228 | 17,598 | 290,826 |
| Murchison | 153 | 23 | 12 | 112 | 1 | 9 | 310 | 227,151 | 19,064 | 246,215 |
| Darling | 180 | 48 | 14 | 203 | 2 | 13 | 410 | 348,360 | 18,644 | 367,004 |
| Inglis | 178 | 33 | 17 | 117 | 1 | 13 | 359 | 159,269 | 32,227 | 191,496 |
| Sandon | 585 | 161 | 55 | 104 | 3 | 6 | 914 | 502,512 | 33,673 | 536,185 |
| Vernon | 129 | 38 | 5 | 104 | 3 | 6 | 285 | 323,008 | 20,776 | 343,784 |
| Hawes | 5 | 3 | .. | 68 | 3 | 4 | 83 | 108,156 | 1,050 | 109,206 |
| Parry | 275 | 52 | 25 | 106 | 3 | 16 | 477 | 510,646 | 12,546 | 523,192 |
| Buckland | 301 | 54 | 24 | 95 | 3 | 2 | 479 | 706,811 | 12,822 | 719,633 |
| Total | 2,978 | 640 | 248 | 1,831 | 35 | 102 | 5,834 | 4,399,332 | 226,731 | 4,626,063 |

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The total area alienated in this district is 4,626,063 acres, or 29·18 per cent. of the whole extent of 15,852,160 acres. The total number of occupiers of rural settled lands is 5,834, of whom 2,978 live on their freeholds; 640 are tenants of private lands; 248 rent private lands in addition to possessing freehold land; 1,831 occupy Crown lands in addition to their freeholds; 35 occupy private rented lands with Crown lands attached; and 102 persons who possess freeholds are also tenants of the Crown and of private landowners. The proportion of the area occupied by private tenants is 226,731 acres, or 4·90 per cent. of the whole extent of alienated land; whilst 95·10 per cent., representing 4,399,332 acres, is occupied by the landowners themselves. The land is used both for agricultural and pastoral purposes, and these industries are generally carried on conjointly. The average area of holdings in the district is 793 acres, ranging from 283 acres per holding in Clive to 2,914 acres in Drake. The average in the county of Buckland is 1,502 acres; but in the districts surrounding the towns of Glen Innes and Inverell a large decrease is experienced, the average area of the holdings being only 606 and 761 acres in Gough and Hardinge respectively. The area of alienated land enclosed is 4,488,114 acres; and unenclosed, 137,949 acres. There are 176,308 acres cultivated—that is, about 3·81 per cent. of the alienated area—154,676 acres being land tilled by the proprietors, and 21,632 by tenants. The holdings in this division may be classified as under:—

| Size of Holdings. | Alienated Holdings. | Area of Holdings. | | Area in Cultivation. | |
|---|---|---|---|---|---|
| | | Total. | Proportion to Total Area Alienated in District. | Total. | Proportion to Area of Holdings. |
| | No. | acres. | per cent. | acres. | per cent. |
| 1 to 30 acres | 1,126 | 8,456 | 0·18 | 2,973 | 35·16 |
| 31 to 400 acres | 3,322 | 554,928 | 12·00 | 87,149 | 15·70 |
| 401 to 1,000 acres | 824 | 530,113 | 11·46 | 40,227 | 7·59 |
| 1,001 to 10,000 acres | 477 | 1,236,288 | 26·72 | 34,953 | 2·83 |
| 10,001 acres and upwards | 85 | 2,206,278 | 49·64 | 11,006 | 0·48 |
| Total | 5,834 | 4,626,063 | 100·00 | 176,308 | 3·81 |

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The average area of the large estates over 10,000 acres in extent, on the northern tableland, is 27,015 acres.

There are 8,650,571 acres of Crown lands occupied in this division, 1,972,795 acres of which are held under conditional lease, 214,180 acres under settlement lease, and 6,463,596 acres under other forms of lease. The area of Crown lands enclosed is 5,126,624 acres; and unenclosed, 3,523,947 acres. The value of improvements is returned at £579,137—an average of nearly 1s. 4d. per acre occupied, the unenclosed area being very large. Only a very small area, 3,845 acres, is under cultivation. The total area of alienated lands and Crown lands held under lease is 13,276,634 acres, and deducting from this the area cultivated—180,153 acres—it will be seen that the area devoted to grazing and dairying is 13,096,481 acres. The total area of the district is 15,852,160 acres, and making allowance for alienated land in holdings under an acre in extent, which are not included in the foregoing, there remains neither alienated nor under occupation an area of about 2,431,000 acres.

## South-Western Slope.

The districts situated on the western slope of the Great Dividing Range mark the transition between the agricultural settlements of the coast and tableland and the purely pastoral settlements of the great western region. The extent of arable land in the division is very considerable, but in proportion to the total area of holdings little is devoted to cultivation, as it is more advantageous at present to use the land for grazing purposes, the great distance to the markets being the principal obstacle to a rapid expansion of agriculture on the tableland. Not withstanding this, however, a considerable impetus has been given to agriculture during the last six years, some of the most notable increases having taken place in this district.

It will be noticed that the proportion of land alienated considerably diminishes as the districts on the western slope are reached, except in those parts where the excellence of the land for grazing purposes, and even for agriculture, impelled the pastoral tenants of the Crown some years ago to secure their holdings from the incursions of the free selector—whom the Act ostensibly intended to favour—by means of systematic purchases under the auction sale and improvement clauses of the Land Act of 1861. In the south-western districts, which are traversed by the principal permanent rivers of western New South Wales, the land has been alienated in a wholesale fashion, and immense areas of freehold land are in the hands of a very small number of landholders; while in the north-western districts the freehold estates are neither so numerous nor of such an enormous extent as those in the south. The state of settlement in the counties situated in the

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southern part of the western slope of the Great Dividing Range may be gathered from the following figures:—

| Counties. | Occupiers of— | | | | | | | Area Alienated. | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Freehold. | Private Rented. | Partly Freehold and partly Private Rented. | Freehold with Crown Lands attached. | Private Rented with Crown Lands attached. | Partly Freehold, partly Private Rented, and partly Crown Lands. | Total. | Freehold. | Private Rented. | Total. |
| | No. | No. | No. | No. | No. | No. | No. | acres. | acres. | acres. |
| Gipps | 21 | 7 | .. | 139 | 3 | 10 | 180 | 494,446 | 32,046 | 526,492 |
| Forbes | 281 | 50 | 16 | 126 | 3 | 7 | 483 | 431,898 | 23,395 | 455,293 |
| Bland | 449 | 55 | 18 | 205 | 1 | 8 | 736 | 767,682 | 50,506 | 818,188 |
| Harden | 621 | 142 | 59 | 87 | 4 | 9 | 922 | 843,573 | 58,240 | 901,813 |
| Clarendon | 380 | 99 | 54 | 39 | 3 | 5 | 580 | 597,611 | 41,098 | 638,709 |
| Bourke | 542 | 67 | 21 | 102 | 4 | 5 | 741 | 687,731 | 47,703 | 735,434 |
| Mitchell | 286 | 36 | 14 | 28 | 1 | 2 | 367 | 666,802 | 22,020 | 688,822 |
| Hume | 411 | 67 | 36 | 17 | 1 | 5 | 537 | 907,868 | 34,375 | 942,243 |
| Goulburn | 385 | 97 | 30 | 56 | 3 | 11 | 582 | 546,801 | 67,008 | 613,809 |
| Total | 3,376 | 620 | 248 | 799 | 23 | 62 | 5,128 | 5,944,412 | 376,391 | 6,320,803 |

The total area of this district is computed at 10,110,080 acres, of which 6,320,803 acres are now alienated, or 62·52 per cent. of the whole area. In some of the counties, however, a greater proportion of the land has been parted with; thus in Hume, 86·48 per cent. is alienated, or 942,243 acres out of a total of 1,064,960 acres. This county is closely followed by Clarendon with 86·18 per cent., or 638,709 acres out of 741,120 acres; Mitchell, with 83·43 per cent., or 688,822 acres out of 825,600 acres; Harden, with 81·87 per cent., or 901,813 acres out of 1,101,440 acres; Goulburn, with 69·30 per cent., or 613,809 acres out of 885,760 acres; Bland, with 52·84 per cent., or 818,188 acres out of 1,548,160 acres; Forbes, with 50·35 per cent., or 455,293 acres out of 904,320 acres; Bourke, with 49·96 per cent., or 735,434 acres out of 1,472,000 acres; and Gipps, with 33·60 per cent., or 526,492 acres out of 1,566,720 acres. The percentage of land held by tenants is very small, ranging from 3·19 per cent. in Mitchell to 10·92 in Goulburn, the percentage for the whole district being only 5·95.

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The number of holders of rural lands in this district is 5,128, of whom 3,376 occupy their own freeholds; only 620 are private tenants alone; 248 rent private lands in addition to their freeholds; 799 persons occupy areas of Crown lands, generally for grazing purposes, in addition to their own freeholds; 23 persons occupy private rented lands with Crown lands attached; and 62 persons who possess freeholds also rent land from the Crown and from private owners.

The average area of holdings for the whole district is 1,233 acres; but in the county of Gipps it reaches 2,825 acres; and in Mitchell 1,877 acres, diminishing from 1,755 in Hume to 943 acres in Forbes.

Practically the whole of the alienated land in this district is enclosed, only 34,516 acres out of a total area of 6,320,803 acres being open. The area under cultivation is 706,709 acres, of which 621,554 acres represent land worked by proprietors, while 85,155 acres are worked by tenants. The average area of estates over 10,000 acres in extent is 26,506 acres. The holdings in this division are thus distributed:—

| Size of Holdings. | Alienated Holdings. | Area of Holdings. | | Area in Cultivation. | |
|---|---|---|---|---|---|
| | | Total. | Proportion to Total Area alienated in District. | Total. | Proportion to Area of Holdings. |
| | No. | acres. | per cent. | acres. | per cent. |
| 1 to 30 acres | 827 | 7,549 | 0·12 | 2,253 | 29·84 |
| 31 to 400 acres | 2,251 | 430,364 | 6·81 | 132,768 | 30·85 |
| 401 to 1,000 acres | 1,179 | 751,944 | 11·90 | 175,108 | 23·29 |
| 1,001 to 10,000 acres | 756 | 2,082,711 | 32·95 | 244,693 | 11·75 |
| 10,001 acres and upwards | 115 | 3,048,235 | 48·22 | 151,887 | 4·98 |
| Total | 5,128 | 6,320,803 | 100·00 | 706,709 | 11·18 |

The total area of Crown lands occupied on the South-Western slope is 3,000,785 acres, only 122,211 acres of which remain unfenced. The area held under conditional lease is 1,120,349 acres, under settlement lease, 237,150 acres, and 1,643,286 acres under other forms of lease. In cultivation there are 19,391 acres, of which 17,585 acres are in the counties of Bourke, Bland, and Gipps. The value of improvements is returned at £686,748, or an average of 4s. 7d. per acre. The number of lessees is 1,069, of whom 884 occupy Crown lands attached to alienated holdings, and 185 occupy Crown lands only.

The area of alienated lands and Crown lands occupied is 9,321,588 acres, and deducting from this the cultivated area—726,100 acres—the area devoted to grazing and dairying is 8,595,488 acres. The total area of the district is 10,110,080 acres; so that, allowing for alienation in holdings under 1 acre in area, there are not more than about 777,000 acres unalienated and unoccupied.

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## Riverina District.

This district was formerly included in the South-Western slope, but owing to its increased importance the particulars relating to it are now shown separately. The occupation of the alienated lands is illustrated by the figures given in the following table:—

| Counties. | Occupiers of— | | | | | | | Area alienated. | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Freehold. | Private Rented. | Partly Freehold and partly Private Rented. | Freehold with Crown Lands attached. | Private Rented with Crown Lands attached. | Partly Freehold, partly Private Rented, and partly Crown Lands. | Total. | Freehold. | Private Rented. | Total. |
| | No. | No. | No. | No. | No. | No. | No. | acres. | acres. | acres. |
| Dowling | 20 | 3 | .. | 49 | .. | 2 | 74 | 116,824 | 4,782 | 121,606 |
| Nicholson | 115 | 11 | .. | 74 | 1 | 2 | 203 | 399,097 | 2,751 | 401,848 |
| Cooper | 122 | 27 | 8 | 79 | 4 | 2 | 242 | 694,018 | 19,841 | 713,859 |
| Sturt | 12 | 1 | 1 | 25 | 1 | 2 | 42 | 583,153 | 6,292 | 589,445 |
| Waradgery | 98 | 9 | 3 | 53 | .. | 6 | 169 | 958,545 | 12,711 | 971,256 |
| Boyd | 50 | .. | 1 | 7 | .. | .. | 58 | 652,643 | 1,800 | 654,443 |
| Urana | 429 | 22 | 26 | 29 | .. | 8 | 514 | 1,663,054 | 39,080 | 1,702,134 |
| Denison | 288 | 66 | 15 | 11 | 1 | 3 | 384 | 524,908 | 70,585 | 595,493 |
| Townsend | 232 | 29 | 11 | 32 | .. | 4 | 308 | 1,776,518 | 20,564 | 1,797,082 |
| Wakool | 75 | 6 | 5 | 77 | 1 | 6 | 170 | 1,178,789 | 23,867 | 1,202,656 |
| Cadell | 185 | 21 | 12 | 9 | .. | 2 | 229 | 486,864 | 15,364 | 502,228 |
| Total | 1,626 | 195 | 82 | 445 | 8 | 37 | 2,393 | 9,034,413 | 217,637 | 9,252,050 |

The total area alienated in this district is 9,252,050 acres, or 58·57 per cent. of the whole extent of 15,795,920 acres; but in some of the counties the proportion is much larger, viz.:—Urana, 85·14 per cent.; Townsend, 76·96 per cent.; Denison, 75·52 per cent.; Cadell, 75·24 per cent.; Boyd, 65·34 per cent.; Wakool, 63·27 per cent.; Sturt, 60·90 per cent.; and Waradgery, 54·41 per cent. The area of land held by tenants is very small, ranging from 0·26 per cent. in Boyd, to 11·85 per cent. in Denison; the proportion for the whole district being only 2·35 per cent.

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The number of holders of rural lands in the Riverina district is 2,393, of whom 1,626 occupy their own freeholds; only 195 are private tenants alone; 82 rent private lands in addition to their freeholds; 445 persons occupy areas of Crown lands, generally for grazing purposes, in addition to their own freeholds; 8 persons occupy private rented lands with Crown lands attached; and 37 persons who possess freeholds also rent land from the Crown and from private owners.

As might be expected, the average area of holdings is high in the South-Western slope and Riverina districts, where the auction and improvement clauses of the Crown Lands Act of 1861 were extensively brought into operation for the purpose of consolidating holdings and preventing the land from falling into the hands of the free selectors, whom the great pastoral lessees did not look upon as desirable neighbours. The land was, indeed, bought up wholesale, the pastoralists being greatly helped by the various banking corporations, and their joint operations resulted in the alienation of immense areas of the best pastoral land in the state. The average area of holdings for the district is 3,866 acres; but in the county of Sturt it reaches 14,034 acres; in Boyd, 11,284 acres; in Wakool, 7,074 acres; in Townsend, 5,835 acres; and in Waradgery, 5,747 acres, diminishing from 3,312 in Urana to 1,551 acres in Denison.

Practically the whole of the alienated land in this district is enclosed, only 20,237 acres out of a total area of 9,252,050 acres being open. The area under cultivation is 388,505 acres, of which 334,319 acres represent land worked by proprietors, while 54,186 acres are worked by tenants. The holdings in this division are thus distributed :—

| Size of Holdings. | Alienated Holdings. | Area of Holdings. | | Area in Cultivation. | |
|---|---|---|---|---|---|
| | | Total. | Proportion to Total Area alienated in District. | Total. | Proportion to Area of Holdings. |
| | No. | acres. | per cent. | acres. | per cent. |
| 1 to 30 acres ..... | 257 | 1,640 | 0·02 | 302 | 18·41 |
| 31 to 400 acres ..... | 715 | 152,224 | 1·65 | 48,395 | 31·79 |
| 401 to 1,000 acres..... .. | 757 | 486,740 | 5·26 | 98,272 | 20·19 |
| 1,001 to 10,000 acres ... | 532 | 1,284,944 | 13·89 | 164,773 | 12·82 |
| 10,001 acres and upwards | 132 | 7,326,502 | 79·18 | 76,763 | 1·05 |
| Total ..... | 2,393 | 9,252,050 | 100·00 | 388,505 | 4·20 |

The average area of estates over 10,000 acres in extent is 55,504 acres. The area cultivated on these large holdings is small in comparison with their total extent, but it is nevertheless more than six times as much as it was six years ago, when it stood at 12,012 acres.

The total area of Crown lands occupied is 4,971,123 acres, only 218,407 acres being unenclosed. The area held under conditional lease

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is 949,506 acres, under settlement lease, 213,639 acres, and under other forms of lease, 3,807,978 acres. There are 11,371 acres in cultivation, of which 7,900 acres are in the counties of Nicholson, Cooper, Wakool, and Waradgery. The value of improvements is returned at £691,944, or an average of about 2s. 9d. per acre. The number of lessees is 682, of whom 490 occupy Crown lands attached to alienated holdings, and 192 occupy Crown lands only. The area of alienated lands and Crown lands occupied is 14,223,173 acres, and deducting from this the cultivated area—399,876 acres—the area devoted to grazing and dairying is 13,823,297 acres.

The total area of the district is 15,795,920 acres, and making allowance for alienated land in holdings under 1 acre in extent, which are not included in the foregoing, there remain neither alienated nor under occupation an area of about 1,556,000 acres.

## Central-Western Slope.

The condition of settlement in regard to the lands on the central western slope is illustrated by the following table:—

| Counties. | Occupiers of— | | | | | | | Area alienated. | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Freehold. | Private Rented. | Partly Freehold and partly Private Rented. | Freehold with Crown Lands attached. | Private Rented with Crown Lands attached. | Partly Freehold, partly Private Rented, and partly Crown Lands. | Total. | Freehold. | Private Rented. | Total. |
| | No. | No. | No. | No. | No. | No. | No. | acres. | acres. | acres. |
| Napier | 23 | 10 | 3 | 34 | 1 | 1 | 72 | 167,858 | 5,282 | 173,140 |
| Gowen | 97 | 36 | 9 | 136 | 4 | 9 | 291 | 187,586 | 24,965 | 212,551 |
| Ewenmar | 47 | 13 | 2 | 127 | 3 | 6 | 198 | 372,811 | 15,574 | 388,385 |
| Oxley | 104 | 7 | 1 | 53 | 3 | 7 | 175 | 244,403 | 32,847 | 277,250 |
| Narromine | 198 | 30 | 5 | 99 | 1 | 5 | 338 | 359,213 | 15,172 | 374,385 |
| Lincoln | 208 | 80 | 13 | 172 | 2 | 2 | 537 | 239,561 | 16,209 | 255,770 |
| Gordon | 214 | 60 | 11 | 174 | 1 | 8 | 468 | 368,172 | 20,577 | 388,749 |
| Ashburnham | 1,098 | 170 | 44 | 280 | 15 | 19 | 1,606 | 706,465 | 54,204 | 760,669 |
| Kennedy | 41 | 1 | .. | 86 | 2 | 5 | 135 | 202,280 | 4,063 | 206,343 |
| Cunningham | 122 | 11 | .. | 154 | 3 | 4 | 294 | 362,087 | 5,854 | 367,941 |
| Total | 2,212 | 418 | 88 | 1,295 | 35 | 66 | 4,114 | 3,210,436 | 194,747 | 3,405,183 |

The total area alienated amounts to 3,405,183 acres, or 29·17 per cent. of the total area of the district, which is estimated at 11,672,320 acres. The greatest area alienated is in the county of Ashburnham, where there are 760,669 acres, or 55·64 per cent. of the total area, held by settlers. The percentage of alienated land in Gordon is 39·96; in Oxley, 32·64; in Narromine, 32·37; in Ewenmar, 29·54; in Napier,

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25·94; in Cunningham, 24·00; in Lincoln, 20·31; in Gowen, 19·58; and in Kennedy 14·07 per cent. The land is almost entirely devoted to pastoral pursuits, there being only 302,380 acres under cultivation, of which 269,924 acres, or 89·27 per cent., are in the counties of Ashburnham, Gordon, Lincoln, Cunningham, and Narromine. Only 26,274 acres are cultivated by tenants. Although the area occupied by tenants is proportionately larger than is the case farther south, there are only 194,747 acres so held, the proprietors occupying 3,210,436 acres out of the 3,405,183 acres of alienated land which the district contains. The proportion held by tenants ranges from 11·85 per cent. in Oxley and 11·75 per cent. in Gowen to 1·59 in Cunningham; the average for the whole district is 5·71 per cent. The area of alienated land enclosed is 3,373,157 acres, and only 32,026 acres are unenclosed.

The average area of holdings in the district is 828 acres, ranging from 474 acres in Ashburnham to 2,405 acres in Napier.

The holdings in this division may be thus classified. The average area of large estates over 10,000 acres in extent is 24,074 acres:—

| Size of Holdings. | Alienated Holdings. | Area of Holdings. | | Area in Cultivation. | |
|---|---|---|---|---|---|
| | | Total. | Proportion to Total Area alienated in District. | Total. | Proportion to Area of Holdings. |
| | No. | acres. | per cent. | acres. | per cent. |
| 1 to 30 acres | 786 | 6,381 | 0·19 | 2,473 | 38·75 |
| 31 to 400 acres | 1,861 | 328,796 | 9·65 | 93,886 | 28·55 |
| 401 to 1,000 acres | 921 | 596,113 | 17·51 | 97,418 | 16·34 |
| 1,001 to 10,000 acres | 495 | 1,246,125 | 36·59 | 91,488 | 7·34 |
| 10,001 acres and upwards | 51 | 1,227,768 | 36·06 | 17,115 | 1·39 |
| Total | 4,114 | 3,405,183 | 100·00 | 302,380 | 8·88 |

The area of Crown lands occupied in this district is 7,117,174 acres, of which 6,821,497 acres are enclosed. The area under conditional lease is 2,379,755 acres, under settlement lease 777,614 acres, and 3,959,805 acres under other forms of lease. The area under cultivation is only 40,441 acres; and the value of improvements on Crown lands is £1,148,984, or an average of about 3s. 3d. per acre occupied. There are 1,791 lessees, of whom 1,396 also have alienated estates, and 395 occupy Crown lands only.

The total area of alienated lands and Crown lands occupied is 10,522,357 acres, of which 10,179,536 acres are devoted to the pastora and dairying industry. The total area embraced in the counties comprising the Central-Western district is 11,672,320 acres, and making allowance for alienated estates under 1 acre in extent, which are not included in the foregoing, there remains neither alienated nor under lease an area of not more than 1,068,000 acres.



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## North-Western Slope.

In the northern portion of the western slope of the Dividing Range, the distribution of settlement closely resembles that met with in the division just examined, as the following table shows :—

| Counties. | Occupiers of— | | | | | | | Area Alienated. | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Freehold. | Private Rented. | Partly Freehold and partly Private Rented. | Freehold with Crown Lands attached. | Private Rented with Crown Lands attached. | Partly Freehold, partly Private Rented, and partly Crown Lands. | Total. | Freehold. | Private Rented. | Total. |
| | No. | No. | No. | No. | No. | No. | No. | acres. | acres. | acres. |
| Stapylton ..... | 22 | 1 | 2 | 65 | 1 | 4 | 95 | 202,329 | 5,780 | 208,069 |
| Burnett ..... | 75 | 12 | 3 | 116 | 4 | 8 | 218 | 439,009 | 7,164 | 446,173 |
| Courallie ..... | 55 | 15 | 8 | 70 | 2 | 8 | 158 | 641,885 | 15,965 | 657,850 |
| Benarba ..... | 20 | 1 | 1 | 127 | 1 | 3 | 153 | 327,930 | 6,350 | 334,280 |
| Denham ..... | 7 | 1 | 1 | 72 | .. | 6 | 87 | 209,408 | 32,357 | 241,765 |
| Jamison ..... | 32 | 7 | .. | 85 | 2 | 5 | 131 | 407,490 | 9,480 | 416,970 |
| Nandewar ..... | 140 | 23 | 6 | 76 | .. | 4 | 249 | 293,908 | 4,774 | 298,682 |
| Pottinger ..... | 323 | 25 | 19 | 133 | 3 | 4 | 498 | 962,569 | 11,240 | 973,809 |
| White ..... | 84 | 8 | 14 | 17 | 2 | 1 | 126 | 48,944 | 2,440 | 51,384 |
| Baradine ..... | 54 | 14 | 3 | 82 | 2 | 7 | 162 | 152,102 | 10,906 | 163,008 |
| Leichhardt ..... | 81 | 16 | 3 | 166 | 2 | 3 | 271 | 596,965 | 8,628 | 605,593 |
| Total ..... | 893 | 123 | 51 | 1,009 | 19 | 48 | 2,143 | 4,282,549 | 115,034 | 4,397,583 |

The area alienated is 4,397,583 acres, or 27·15 per cent. of the total area, which is 16,195,880 acres. The highest proportion of alienated land is in Pottinger, around Gunnedah, where 973,809 acres, or 53·98 per cent. of the total area of the county, calculated at 1,804,120 acres, have been alienated, the greater portion to the pastoralists, who have succeeded in preventing the settlement of an agricultural class on the best portion of the famed Liverpool Plains. The competition between the pastoralists and the selectors was not so keen in the north-western district as it was in the central, and more particularly in the south-western and Riverina divisions, presumably because the land, though equally good in quality, is too distant from the markets, and the country is more exposed to extreme climatic influences in the northern parts. The average area of holdings throughout the district, though higher than in the Central-western and South-western districts, is not so large as the average in the Riverina district, reaching 2,052 acres, with a maximum of 4,300 acres in Courallie, owing to causes explained above, and a minimum of 408 acres in White. The district, with the exception of its eastern portion, abutting on the boundary of the tableland of New England, is entirely devoted to the depasturing of stock. There are 241 tenant occupiers, renting 115,034 acres, the balance of the alienated area—4,282,549 acres—being occupied by 2,001

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proprietors. The total number of holdings is 2,143, of which 893 are freehold, 123 private rented properties, 51 partly freehold and partly private rented lands, 1,009 freeholds to which have been added Crown lands, 19 private rented lands with Crown lands attached, and 48 partly freehold and partly private rented and Crown lands.

The proportion of land held by tenant occupiers is not large, amounting only to 2·61 per cent. for the district. In Denham, however, it reaches 13·38 per cent.; in Baradine, 6·69 per cent.; and in White, 4·75 per cent.; but the proportion is very small everywhere else. The greater part of the alienated land in the district is enclosed, only 85,074 acres out of a total of 4,397,583 acres remaining open. The area cultivated is 41,193 acres, 39,269 acres being tilled by proprietors and 1,924 acres by tenants.

The holdings in this division may be classified as follow. The average area of large estates over 10,000 acres in extent is 33,613 acres :—

| Size of Holdings. | Alienated Holdings. | Area of Holdings. | | Area in Cultivation. | |
|---|---|---|---|---|---|
| | | Total. | Proportion to Total Area alienated in District. | Total. | Proportion to Area of Holdings. |
| | No. | acres. | per cent. | acres. | per cent. |
| 1 to 30 acres ..... | 339 | 2,568 | 0·06 | 710 | 27·65 |
| 31 to 400 acres ..... | 752 | 132,250 | 3·01 | 12,912 | 9·76 |
| 401 to 1,000 acres..... | 553 | 349,563 | 7·95 | 8,714 | 2·49 |
| 1,001 to 10,000 acres ... | 416 | 1,122,752 | 25·53 | 9,832 | 0·87 |
| 10,001 acres and upwards | 83 | 2,790,450 | 63·45 | 9,025 | 0·32 |
| Total ..... | 2,143 | 4,397,583 | 100·00 | 41,193 | 0·94 |

In the north-western district there are under lease 8,995,232 acres of Crown lands, 8,524,481 acres being enclosed and 470,751 acres open. The total area under conditional lease is 2,517,096 acres, under settlement lease 1,307,052 acres, and 5,171,084 acres under other forms of lease. There is no cultivation to speak of, the entire area under crop being only 4,467 acres. The value of improvements on Crown lands is returned at £858,312, or about 1s. 11d. per acre. There are 1,523 lessees, 1,076 occupying Crown lands in addition to their alienated holdings, and 447 occupying Crown lands only.

The area of alienated lands and Crown lands occupied is 13,392,815 acres, and deducting the area cultivated, 45,660 acres, there remain 13,347,155 acres devoted to the pastoral and dairying industries—chiefly, of course, to the former. The total area of the counties comprising this division being 16,195,880 acres, the area remaining unalienated and

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unoccupied by lease, allowing for alienation in holdings under 1 acre in extent, which are not included in the figures given above, will not be more than about 2,756,000 acres.

## The Western Plains.

In the extreme west of the state settlement is making but slow progress. With the exception of the great mining centre of Broken Hill, situated on the boundary of the neighbouring state of South Australia, around which a large population has settled within the last few years, the whole of this vast portion of the domain of New South Wales is given up to the depasturing of stock. Owing to the closer settlement of the country to the east of the Darling, and the more favourable climatic conditions, the counties in this district have been shown separately from those west of the Darling, where the general character of the country militates against agricultural production and the successful rearing of cattle, sheep-breeding being practically the only industry. The present state of settlement on the western plains is illustrated by the figures given below :—

| Counties. | Occupiers of— | | | | | | | Area Alienated. | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Freehold. | Private Rented. | Partly Freehold and partly Private Rented. | Freehold, with Crown Lands attached. | Private Rented, with Crown Lands attached. | Partly Freehold, partly Private Rented, and partly Crown Lands. | Total. | Freehold. | Private Rented. | Total. |
| East of Darling— | No. | No. | No. | No. | No. | No. | No. | acres. | acres. | acres. |
| Clyde | 37 | 5 | .. | 35 | 1 | 2 | 80 | 150,040 | 6,464 | 156,504 |
| Gregory | 26 | 6 | .. | 89 | .. | 8 | 129 | 559,954 | 50,746 | 610,700 |
| Flinders | 11 | 4 | 1 | 48 | .. | 1 | 65 | 71,715 | 1,039 | 72,754 |
| Canbelego | 30 | .. | .. | 34 | .. | .. | 64 | 59,217 | .... | 59,217 |
| Cowper | 24 | 13 | 1 | 24 | .. | .. | 62 | 56,909 | 788 | 57,697 |
| Yanda | 4 | 1 | 1 | 8 | .. | .. | 14 | 14,610 | 43 | 14,653 |
| Robinson | 40 | 6 | .. | 12 | 2 | .. | 60 | 12,119 | 1,790 | 13,909 |
| Mouramba | 33 | 2 | 1 | 14 | .. | .. | 50 | 13,440 | 124 | 13,564 |
| Blaxland | 24 | 7 | 1 | 17 | .. | .. | 49 | 63,057 | 4,394 | 67,451 |
| Franklin | 9 | 4 | .. | 22 | .. | 3 | 38 | 219,572 | 4,393 | 223,965 |
| Mossgiel | 8 | 1 | .. | 12 | 1 | .. | 22 | 25,942 | 903 | 26,845 |
| Booroondarra | 2 | .. | .. | 6 | 1 | .. | 9 | 3,515 | 40 | 3,555 |
| Rankin | .. | .. | .. | 7 | .. | .. | 7 | 6,929 | .... | 6,929 |
| Werunda | 3 | .. | .. | 4 | .. | .. | 7 | 3,137 | .... | 3,137 |
| Woore | 1 | 1 | .. | 7 | .. | .. | 9 | 6,905 | 120 | 7,025 |
| Manara | .. | 1 | .. | 6 | .. | .. | 7 | 33,484 | 80 | 33,564 |
| Waljeers | 7 | 2 | .. | 13 | .. | .. | 22 | 220,228 | 3,049 | 223,277 |
| Kilfera | 4 | .. | .. | 4 | .. | .. | 8 | 12,993 | .... | 12,993 |
| Caira | 38 | 7 | 6 | 15 | 1 | 4 | 71 | 337,559 | 3,684 | 391,243 |
| Taila | 15 | 1 | 1 | 5 | 3 | .. | 25 | 26,663 | 2,767 | 29,430 |
| Wentworth | 34 | 3 | .. | 16 | .. | 1 | 54 | 66,928 | 3,075 | 70,003 |
| Perry | 4 | 2 | .. | 7 | .. | .. | 13 | 44,528 | 1,110 | 45,638 |
| Livingstone | 6 | .. | .. | 9 | .. | .. | 15 | 13,808 | .... | 13,808 |
| Total— East of Darling | 360 | 66 | 12 | 414 | 9 | 19 | 880 | 2,073,252 | 84,609 | 2,157,861 |

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| Counties. | Occupiers of— | | | | | | | Area Alienated. | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Freehold. | Private Rented. | Partly Freehold and partly Private Rented. | Freehold, with Crown Lands attached. | Private Rented, with Crown Lands attached. | Partly Freehold, partly Private Rented, and partly Crown Lands. | Total. | Freehold. | Private Rented. | Total. |
| | No. | No. | No. | No. | No. | No. | No. | acres. | acres. | acres. |
| West of Darling— | | | | | | | | | | |
| Finch ..... | 5 | 2 | 2 | 29 | 2 | 2 | 42 | 131,411 | 556 | 131,967 |
| Narran ..... | 17 | 6 | 1 | 20 | 1 | 1 | 46 | 71,821 | 3,714 | 75,535 |
| Culgoa ..... | 11 | 1 | .. | 8 | .. | .. | 20 | 12,512 | 3 | 12,515 |
| Gunderbooka.. | 32 | 1 | .. | 16 | .. | 1 | 50 | 31,995 | 4,360 | 36,355 |
| Irrara ..... | 2 | 1 | .. | 7 | .. | 1 | 11 | 11,847 | 340 | 12,187 |
| Thoulcanna .. | 1 | .. | .. | 4 | .. | .. | 5 | 4,001 | .... | 4,001 |
| Barrona ..... | 1 | .. | .. | 1 | .. | .. | 2 | 41 | .... | 41 |
| Landsborough. | 2 | 1 | .. | 3 | .. | .. | 6 | 9,796 | 3 | 9,799 |
| Killara ..... | 1 | 1 | .. | 3 | .. | .. | 5 | 8,761 | 145 | 8,906 |
| Fitzgerald .... | .. | 1 | .. | 1 | .. | .. | 2 | 600 | 40 | 640 |
| Ularara ..... | 2 | 1 | .. | 3 | .. | 1 | 7 | 5,777 | 36 | 5,813 |
| Delalah ..... | .. | .. | .. | 1 | .. | .. | 1 | 360 | .... | 360 |
| Tongowoko .. | 4 | .. | .. | 4 | .. | .. | 8 | 19,062 | .... | 19,062 |
| Poole ..... | .. | .. | .. | 2 | .. | .. | 2 | 240 | .... | 240 |
| Yantara ..... | .. | 1 | .. | 4 | .. | .. | 5 | 4,296 | 40 | 4,336 |
| Yungnulgra .. | 28 | .. | 1 | 5 | .. | .. | 34 | 10,396 | 40 | 10,436 |
| Young ..... | 31 | 2 | 1 | 15 | 1 | .. | 50 | 23,361 | 799 | 24,160 |
| Tandora ..... | 3 | .. | .. | 6 | .. | .. | 9 | 3,360 | .... | 3,360 |
| Mootwingee .. | 2 | .. | .. | 6 | .. | .. | 8 | 6,311 | 40 | 6,351 |
| Evelyn ..... | 4 | .. | .. | 4 | .. | .. | 8 | 20,224 | .... | 20,224 |
| Farnell ..... | 10 | .. | .. | 2 | .. | .. | 12 | 3,190 | .... | 3,190 |
| Yancowinna .. | 132 | 27 | .. | 14 | .. | .. | 173 | 37,211 | 85 | 37,296 |
| Menindie .... | 7 | 1 | .. | 4 | .. | .. | 12 | 4,373 | 1 | 4,374 |
| Windeyer .... | 2 | 1 | .. | 6 | 2 | .. | 11 | 19,730 | 459 | 20,189 |
| Tara ..... | 2 | 3 | 1 | 14 | 1 | .. | 21 | 42,867 | 7,861 | 50,728 |
| Total— West of Darling | 299 | 50 | 6 | 182 | 7 | 6 | 550 | 483,543 | 18,522 | 502,065 |
| Total— Western Plains. | 659 | 116 | 18 | 596 | 16 | 25 | 1,430 | 2,556,795 | 103,131 | 2,659,926 |

The proportion of land alienated is only 3·04 per cent. of the total area of this district, being an aggregate of 2,659,926 acres out of 87,613,600 acres which the division is estimated to contain. The greatest area alienated is in the county of Gregory, where there are 610,700 acres, or 31·09 per cent. of the total area of the county held by settlers. Of the total alienated area, 2,556,795 acres are in the occupancy of the landowners, and only 103,131 acres are held under private lease, this kind of tenure being principally met with in the counties of Gregory, Clyde, Blaxland, Franklin, Waljeers, Caira, Wentworth, Narran, Gundabooka, and Tara. The total number of holdings is 1,430, of which 659 are freehold; 116 private rented properties; 18 partly freehold and partly private leasehold; 596 freeholds to which considerable areas of Crown lands are attached; 16 private rented holdings with Crown lands attached; and 25 freeholds with both private rented and Crown lands attached. The average area of alienated holdings for the whole western division is 1,858 acres, the average in many

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counties, owing to the small number of holdings, being very large. In Waljeers it reaches 10,149 acres; in Franklin, 5,894 acres; in Caira, 5,510 acres; in Manara, 4,795 acres; in Gregory, 4,734 acres; in Perry 3,511 acres; and in Finch, 3,142 acres. The average in Evelyn is 2,528 acres; in Tara, 2,416 acres; in Tongowoko, 2,383 acres; in Clyde, 1,956 acres; in Windeyer, 1,835 acres; in Killara, 1,781 acres; in Narran, 1,642 acres; in Landsborough, 1,633 acres; in Kilfera, 1,624 acres; in Blaxland, 1,377 acres; in Wentworth 1,296 acres; in Mossgiel, 1,220 acres; in Taila, 1,177 acres; in Flinders, 1,119 acres; and in Irrara, 1,108 acres; in Yanda it is 1,047 acres; diminishing in the other counties from 990 acres in Rankin to 120 acres in Poole; while in Barrona there are 2 holdings averaging 20 acres each. There are two holdings of 120 acres each in Poole, and one of 360 acres in Delalah. The land is used purely for pastoral purposes, except in the vicinity of townships, where market-gardening and fruit-growing are carried on, principally by Chinese.

The area of alienated land enclosed in this division is 2,527,463 acres, and unenclosed, 132,463 acres. In cultivation there is an area of 17,509 acres, only 1,734 acres of which are tilled by tenants. The average area of large estates over 10,000 acres in extent is 32,049 acres.

The holdings on the western plains may be classified as follows :—

| Size of Holdings. | Alienated Holdings. | Area of Holdings. | | Area in Cultivation. | |
|---|---|---|---|---|---|
| | | Total. | Proportion to Total Area alienated in District. | Total. | Proportion to Area of Holdings. |
| | No. | acres. | per cent. | acres. | per cent. |
| 1 to 30 acres ..... | 432 | 1,915 | 0·07 | 344 | 17·96 |
| 31 to 400 acres ..... | 418 | 63,899 | 2·40 | 3,391 | 5·31 |
| 401 to 1,000 acres..... | 271 | 180,637 | 6·79 | 6,172 | 3·42 |
| 1,001 to 10,000 acres ... | 258 | 778,962 | 29·29 | 4,963 | 0·64 |
| 10,001 acres and upwards | 51 | 1,634,513 | 61·45 | 2,639 | 0·16 |
| Total ..... | 1,430 | 2,659,926 | 100·00 | 17,509 | 0·66 |

The area of Crown lands occupied in this division is very large, there being no less than 75,439,518 acres under various forms of lease. Under homestead lease there are 11,798,378 acres. There are 1,119,011 acres under conditional lease, granted under the Act of 1884, but this form of lease is no longer obtainable in the western division. Under settlement lease there are 274,665 acres, and under other forms of lease

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62,247,464 acres. The number of lessees of Crown lands is 1,887, of whom 637 occupy Crown lands in addition to their alienated holdings, while 1,250 occupy Crown lands only. The value of improvements is returned at £5,330,602—an average of about 1s. 5d. per acre occupied.

The total area of alienated lands and Crown lands occupied is 78,099,444 acres, which is all devoted to pastoral pursuits with the exception of 34,752 acres under crop. The total area of the counties of the western plains is computed at 87,613,600 acres, and the area remaining unoccupied or unalienated is, therefore, about 9,514,000 acres.

## Area of Holdings.

It will be gathered from an analysis of the figures which have been given that settlement in New South Wales has hitherto tended towards the concentration into comparatively few hands of the lands alienated to a large number of individual selectors, and that in the great majority of cases the owner of the land is also the occupier. Tenancy, as understood in older settled communities, has made comparatively little progress, 90·91 per cent. of the land alienated being yet in the occupancy of the proprietors themselves, or an area of 41,855,686 acres; whilst only 4,187,558 acres, or 9·09 per cent., are held under lease from the freeholders.

Below will be found the number of holdings of various sizes throughout the state, distinguishing freehold from rented land. It will be understood that here, as elsewhere in this chapter, though reference is made to holders who occupy Crown lands in addition to alienated lands, the area of such Crown lands is not considered in treating of the size of the holdings:—

| Size of Holdings. | Number of Holdings. | | | | | | |
|---|---|---|---|---|---|---|---|
| | Freehold. | Private Rented. | Partly Freehold and partly Private Rented. | Freehold, with Crown Lands attached. | Private Rented, with Crown Lands attached. | Partly Freehold, partly Private Rented, partly Crown Lands. | Total. |
| 1 to 30 acres | 13,366 | 6,521 | 907 | 223 | 42 | 20 | 21,079 |
| 31 to 400 acres | 18,807 | 7,329 | 2,160 | 5,374 | 256 | 337 | 34,263 |
| 401 to 1,000 acres | 4,019 | 736 | 624 | 2,632 | 91 | 249 | 8,351 |
| 1,001 to 10,000 acres | 1,855 | 264 | 381 | 2,189 | 44 | 410 | 5,043 |
| 10,001 acres and upwards | 99 | 10 | 27 | 458 | 8 | 101 | 703 |
| Total | 38,146 | 14,840 | 4,099 | 10,796 | 441 | 1,117 | 69,439 |

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The alienated area of the holdings referred to in the table just given, whether freehold or rented, will be found in the figures subjoined, which also show the percentage of alienated land to be found in the holdings of each specified size, as well as the proportion each size of holding, whether freehold or rented, bears to the total area alienated :—

| Size of Holdings. | Area of Holdings. | | | Proportion to Total Alienated Area of the State, exclusive of holdings under 1 acre. | | |
|---|---|---|---|---|---|---|
| | Freehold. | Rented. | Total. | Freehold. | Rented. | Total. |
| | acres. | acres. | acres. | ℘ cent. | ℘ cent. | ℘ cent. |
| 1 to 30 acres ..... | 110,401 | 63,101 | 173,502 | 0·24 | 0·14 | 0·38 |
| 31 to 400 acres ..... | 3,884,354 | 1,159,154 | 5,043,508 | 8·43 | 2·52 | 10·95 |
| 401 to 1,000 acres ..... | 4,534,372 | 755,023 | 5,289,395 | 9·85 | 1·64 | 11·49 |
| 1,001 to 10,000 acres ... | 11,688,579 | 1,456,209 | 13,144,788 | 25·39 | 3·16 | 28·55 |
| 10,001 acres and upwards | 21,637,980 | 754,071 | 22,392,051 | 46·99 | 1·64 | 48·63 |
| Total..... | 41,855,686 | 4,187,558 | 46,043,244 | 90·90 | 9·10 | 100·00 |

The above figures strikingly illustrate the present condition of settlement in New South Wales, and their meaning should not be lost sight of by those who study the various phases of settlement in this country. The proportion of land in holdings 30 acres and under in extent is only 0·38 per cent. of the total area of land alienated in the state, and represents an aggregate of 173,502 acres out of a total of 46,043,244 acres; this small acreage consists of 21,079 holdings, each occupying an average of 8·2 acres. Holdings between 31 and 400 acres in extent number 34,263, with an aggregate area of 5,043,508 acres, or 10·95 per cent. of the area alienated in the state, giving an average of 147·2 acres per holding. It is in this category that a great portion of the land devoted to cultivation is to be found. In areas between 401 and 1,000 acres are to be found 8,351 estates, the number decreasing rapidly as the area increases, aggregating in all 5,289,395 acres, or 11·49 per cent. of the area alienated, giving each an average of 633·4 acres. The tendency just noted becomes still more marked in the holdings between 1,001 and 10,000 acres in extent, their number being only 5,043, whilst they aggregate 13,144,788 acres, or 28·55 per cent. of the total area alienated in the state, giving an average of

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2,606·5 acres per holding. The climax is reached, however, in the holdings of more than 10,000 acres in extent. Of these there are but 703, aggregating 22,392,051 acres, or 48·63 per cent. of the whole area alienated from the Crown, each averaging an area of 31,852 acres.

## Settlement and Agriculture.

Some remarks as to the relative condition of agriculture and of settlement on the alienated rural lands of the state cannot fail to be of interest, especially when read in conjunction with the preceding figures. The following table deals with this question, and the figures carry with them their own explanation :—

| Size of Holdings. | Alienated Holdings. | Area Alienated. | | Area Cultivated. | |
|---|---|---|---|---|---|
| | | Total. | Proportion to area of State. | Total. | Proportion to Area Alienated. |
| | No. | acres. | per cent. | acres. | per cent. |
| 1 to 30 acres | 21,079 | 173,502 | 0·09 | 53,954 | 31·10 |
| 31 to 400 acres | 34,263 | 5,043,508 | 2·54 | 774,590 | 15·36 |
| 401 to 1,000 acres | 8,351 | 5,289,395 | 2·66 | 536,456 | 10·14 |
| 1,001 to 10,000 acres | 5,043 | 13,144,788 | 6·61 | 662,887 | 5·04 |
| 10,001 acres and upwards | 703 | 22,392,051 | 11·26 | 314,068 | 1·40 |
| Total | 69,439 | 46,043,244 | 23·16 | 2,341,955 | 5·09 |

Although the highest proportion of land cultivated in any of these series, when compared with the total area alienated in the state, is found in holdings from 31 to 400 acres in extent, yet when compared with the aggregate area alienated in the series itself it represents only 15·36 per cent. of it; whilst on the smaller holdings, less than 31 acres in extent, as much as 31·10 per cent. of the area alienated is under cultivation. The proportion considerably decreases as the higher areas are reached, being reduced to 1·40 per cent. in those over 10,000 acres.

From the table given on page 567, some interesting information may be gleaned with regard to the proportion of the number of owners of land who still occupy their freeholds, those who reside on rented lands, and those who occupy, in addition to their freeholds, lands rented either from private owners or from the Crown; but a more comprehensive view of these two phases of settlement may be obtained by an

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examination of the following table, in which the holdings are divided into a greater number of categories according to their sizes :—

| Size of Holdings. | Holdings consisting of— | | | | | | | Total Area Alienated. |
|---|---|---|---|---|---|---|---|---|
| | Freehold Land. | Private Rented Land. | Partly Freehold & partly Private Rented Land. | Freehold Land, with Crown Lands attached. | Private Rented Land, with Crown Lands attached. | Partly Freehold, partly Private Rented, & partly Crown Lands. | Total. | |
| | No. | No. | No. | No. | No. | No. | No. | acres. |
| 1 to 5 acres | 7,525 | 3,499 | 292 | 127 | 11 | 6 | 11,460 | 29,622 |
| 6 to 15 acres | 3,659 | 1,740 | 339 | 49 | 12 | 7 | 5,806 | 56,408 |
| 16 to 30 acres | 2,182 | 1,282 | 276 | 47 | 19 | 7 | 3,813 | 87,472 |
| 31 to 50 acres | 4,212 | 1,780 | 260 | 759 | 51 | 14 | 7,076 | 295,061 |
| 51 to 100 acres | 4,906 | 2,319 | 514 | 1,079 | 71 | 40 | 8,929 | 707,865 |
| 101 to 200 acres | 5,169 | 1,058 | 672 | 1,453 | 55 | 100 | 9,407 | 1,421,066 |
| 201 to 300 acres | 2,406 | 809 | 432 | 917 | 39 | 102 | 4,705 | 1,189,643 |
| 301 to 400 acres | 2,114 | 463 | 282 | 1,166 | 40 | 81 | 4,146 | 1,429,873 |
| 401 to 500 acres | 1,211 | 255 | 184 | 510 | 19 | 67 | 2,246 | 1,027,352 |
| 501 to 600 acres | 794 | 148 | 129 | 375 | 15 | 35 | 1,491 | 829,445 |
| 601 to 700 acres | 972 | 174 | 96 | 1,056 | 39 | 45 | 2,382 | 1,538,481 |
| 701 to 800 acres | 441 | 70 | 85 | 248 | 7 | 39 | 890 | 674,629 |
| 801 to 900 acres | 307 | 50 | 76 | 204 | 6 | 34 | 677 | 579,890 |
| 901 to 1,000 acres | 204 | 44 | 54 | 239 | 5 | 29 | 665 | 639,598 |
| 1,001 to 1,500 acres | 840 | 118 | 152 | 701 | 13 | 115 | 1,939 | 2,396,373 |
| 1,501 to 2,000 acres | 299 | 46 | 66 | 387 | 5 | 69 | 872 | 1,538,434 |
| 2,001 to 3,000 acres | 339 | 38 | 69 | 382 | 9 | 83 | 920 | 2,267,184 |
| 3,001 to 4,000 acres | 145 | 20 | 34 | 193 | 9 | 45 | 446 | 1,552,213 |
| 4,001 to 5,000 acres | 87 | 9 | 20 | 143 | 1 | 27 | 287 | 1,291,893 |
| 5,001 to 7,500 acres | 88 | 6 | 27 | 186 | 7 | 42 | 356 | 2,161,167 |
| 7,501 to 10,000 acres | 57 | 7 | 13 | 117 | .... | 29 | 223 | 1,937,519 |
| 10,001 to 15,000 acres | 34 | 6 | 11 | 123 | 5 | 34 | 213 | 2,739,062 |
| 15,001 to 20,000 acres | 19 | 1 | 3 | 94 | 2 | 20 | 139 | 2,449,224 |
| 20,001 to 30,000 acres | 20 | 2 | 7 | 84 | 1 | 25 | 139 | 3,452,316 |
| 30,001 to 40,000 acres | 6 | 1 | 2 | 45 | .... | 9 | 63 | 2,209,109 |
| 40,001 acres and upwards | 20 | .... | 4 | 112 | .... | 13 | 149 | 11,542,340 |
| Total | 38,146 | 14,840 | 4,099 | 10,796 | 441 | 1,117 | 69,439 | 46,043,244 |

From the above it will be seen that the total number of occupiers of freeholds only is 38,146, the proportion to the total number of occupiers being fairly constant in each size of holdings. Absolute tenants of private lands, who number 14,840, are far more numerous in the smaller classes of holdings, and rapidly diminish both in number and in proportion as the estates become larger. The same is the case with regard to holders of freehold and private rented land, who number only 4,099. The persons who possess freeholds with Crown lands attached number 10,796, and nearly 45 per cent. of the holdings over 1,000 acres in extent are in this category. Occupiers whose holdings are partly made up of private rented lands and partly of Crown lands only number 441 altogether ; while owners of freehold, who are Crown tenants and private tenants at the same time, show a total of 1,117.

There are 3,577 occupiers of Crown lands only, not connected with alienated holdings. The total area of alienated holdings over 1 acre in extent in the state is 46,043,244 acres, and of the Crown lands occupied 118,930,265 acres, making a total of 164,973,509 acres. Of this area,

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162,527,945 acres are used for grazing and dairying, and 2,445,564 acres for agriculture. The total value of improvements on Crown lands is returned at £10,216,832—equal to 1s. 8d. per acre.

The figures in regard to holdings represent rural settlement only, and account for 46,043,244 acres out of a total of 47,402,982 acres that have been alienated. The balance of 1,359,738 acres represents lands in cities and towns, and rural lands abandoned, to all appearances, by their owners. The lands of the state are held by 165,000 persons, the owners being almost equally distributed between the towns and the country.

## Labour Settlements.

In June, 1893, an Act was passed to promote the establishment of labour settlements, thus enabling persons without capital to provide for themselves and their families. The land may be leased for twenty-eight years, with a right of renewal, and loans of money are granted to enable the settlers to carry on operations, the first repayment of the loan and the rent of the land not being required until four years from the date of the lease. During 1894 an Amending Act was passed, empowering the Minister to double the amount of loan authorised under the original Act. The control of each establishment is left in the hands of a Board. Funds are provided by the Treasury from which the Board may, with the approval of the Minister, grant the following sums:—To each enrolled member with a family dependent on him, not exceeding £50; to married persons without family, a sum not exceeding £40; and to each member unmarried, a sum not exceeding £30. At the close of the year 1900, two settlements were in existence, viz., Wilberforce and Bega. The Pitt Town settlement, which had been established in June, 1893, with an area of 2,100 acres, was converted into a Casual Labour Farm on the 17th June, 1896. The Bega settlement was established in July, 1893, the area being 1,360 acres and the population consisting of 28 men, 29 women, and 140 children, or a total of 197. The improvements are valued at £2,296, and the amount of loans is £2,421. In August, 1893, the Wilberforce settlement was formed, and now contains 882 acres, finding home and employment for 13 men and 12 women, with 50 children, or a total population of 75. The value of improvements is £2,107, and the amount of loans advanced £2,065.

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# PASTORAL INDUSTRY.

THE rapid settlement of New South Wales has, in a great measure, been due to the fitness of its soil, vegetation, and climate for the successful rearing of the principal species of stock which supply the wants of civilised men, and so largely contribute to the wealth of nations. For many years it was believed that a considerable part of Australia was quite unsuitable for stock, and this opinion was fostered by the accounts of the earlier explorers, who reported that the interior of the continent was a vast desert. These apprehensions, however, were soon dispelled, and the apparent difficulties offered to the successful rearing of stock disappeared before the energy of the colonists. One thing particularly favoured the settlers: though the number of native animals was very considerable, comprising chiefly marsupials of little commercial utility, there happily existed no large species of carnivora which could seriously interfere with the increase in the flocks.

The beginnings of pastoral enterprise were very humble. The whole stock of the community which accompanied Captain Phillip comprised only 1 bull, 4 cows, 1 calf, 1 stallion, 3 mares, 3 foals, 29 sheep, 12 pigs, and a few goats; and although the flocks and herds of Australasia have not sprung from these animals alone, it will be seen on how small a scale the business of stock-raising was first attempted. No systematic record of the arrival of live stock seems to have been kept in the early days of settlement; but it appears that in the period between Governor Phillip's landing and the year 1800 there were some slight importations, chiefly of sheep from India. It is stated that at the close of the year 1792 the live stock of New South Wales consisted of 23 horned cattle 11 horses, 105 sheep (which were then quoted at £10 10s. each), and 43 hogs. By 1796 the numbers had increased to 57 horses, 101 cows and cow-calves, 74 bulls and bull-calves, 52 oxen, 1,531 sheep, 1,427 goats, and 1,869 hogs; a cow being worth £80, a horse, £90; a sheep of the Cape breed, £7 10s.; and a breeding sow, £5. In 1800 there were 203 horses, 1,044 cattle, 6,124 sheep, 2,182 goats, and 4,017 hogs; while three years later the number of sheep was set down at 10,157; In 1825, thirty-seven years after the establishment of New South Wales, there were 6,142 horses, 134,519 cattle, 237,622 sheep, and 39,006 pigs; and in 1842, these numbers had increased to 56,585 horses, 897,219 cattle, 4,804,946 sheep, and 46,086 pigs. As soon as the produce of

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stock began to exceed the demand for food, the increase became very rapid, and at the end of the year 1850 the stock numbered 13,059,324 sheep, 1,738,965 cattle, 132,437 horses, and 61,631 pigs.

In 1851, the severance of Victoria, then the fairest province of the mother colony, involved a loss of 6,589,923 sheep, 390,923 cattle, 20,086 horses, and 7,372 pigs; so that at the close of the year the flocks and herds of New South Wales were reduced to 7,396,895 sheep, 1,375,257 cattle, 116,397 horses, and 65,510 pigs. After the separation of Queensland, at the close of 1859, the numbers of each kind of live stock within the existing boundaries of New South Wales were 6,119,163 sheep, 2,408,586 cattle, 251,497 horses, and 180,662 pigs. The following table shows the number of stock at the end of each decennial period from 1861 to 1891 inclusive, and annually from 1891 to 1900:—

| Year. | Horses. | Cattle. | Sheep. | Swine. |
|---|---|---|---|---|
| 1861 | 233,220 | 2,271,923 | 5,615,054 | 146,091 |
| 1871 | 304,100 | 2,014,888 | 16,278,697 | 213,193 |
| 1881 | 398,577 | 2,597,348 | 36,591,946 | 253,189 |
| 1891 | 469,647 | 2,128,838 | 61,831,416 | 253,189 |
| 1892 | 484,309 | 2,221,459 | 58,080,114 | 249,522 |
| 1893 | 493,231 | 2,269,852 | 56,980,688 | 240,860 |
| 1894 | 518,181 | 2,465,411 | 56,977,270 | 273,359 |
| 1895 | 487,943 | 2,150,057 | 47,617,687 | 223,597 |
| 1896 | 510,636 | 2,226,163 | 48,318,790 | 214,581 |
| 1897 | 498,034 | 2,085,096 | 43,952,897 | 207,738 |
| 1898 | 491,553 | 2,029,516 | 41,241,004 | 247,061 |
| 1899 | 482,200 | 1,967,081 | 36,213,514 | 239,973 |
| 1900 | 481,417 | 1,983,116 | 40,020,506 | 256,577 |

It will be seen that since 1891 the sheep have diminished in number to the extent of nearly twenty-two millions; while since 1894 the numbers of cattle and horses have decreased nearly 483,000 and 37,000 respectively. The number of swine, though 17,000 less than in 1894,

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is now increasing. In order to show the districts in which the changes in the flocks and herds have taken place, during the past seven years, the following table has been compiled :—

| District. | 1894. | 1895. | 1896. | 1897. | 1898. | 1899. | 1900. |
|---|---|---|---|---|---|---|---|
| SHEEP— | | | | | | | |
| Coastal District .. | 196,978 | 188,295 | 213,494 | 193,332 | 244,676 | 345,472 | 278,751 |
| Table-lands .. | 12,769,329 | 10,378,146 | 11,550,784 | 11,402,482 | 12,296,533 | 11,921,247 | 13,123,820 |
| Western Slope and Riverina .. | 27,758,951 | 23,628,960 | 23,947,110 | 21,016,714 | 18,232,605 | 16,756,311 | 20,040,036 |
| Western Plains .. | 15,423,639 | 12,308,062 | 12,300,351 | 11,340,369 | 10,357,438 | 7,118,368 | 6,374,784 |
| Unclassified .. | 833,473 | 1,109,324 | 307,051 | ..... | 197,692 | 172,116 | 208,515 |
| Total ... .. | 56,977,370 | 47,617,687 | 48,318,790 | 43,952,897 | 41,241,004 | 36,213,514 | 40,020,506 |
| ORDINARY CATTLE— | | | | | | | |
| Coastal District .. | 594,028 | 513,694 | 537,172 | 532,771 | 548,909 | 562,351 | 581,533 |
| Table-lands .. | 913,207 | 826,372 | 833,230 | 774,963 | 761,796 | 738,210 | 723,267 |
| Western Slope and Riverina .. | 428,219 | 364,160 | 365,306 | 281,150 | 228,744 | 205,250 | 213,050 |
| Western Plains .. | 91,746 | 87,420 | 90,272 | 84,714 | 74,014 | 61,943 | 45,118 |
| Total .. .. | 2,027,200 | 1,791,646 | 1,825,980 | 1,673,598 | 1,613,463 | 1,567,754 | 1,562,968 |
| DAIRY CATTLE— | | | | | | | |
| Coastal District .. | 228,519 | 197,436 | 232,058 | 252,794 | 268,780 | 269,224 | 280,573 |
| Table-lands .. | 139,694 | 101,895 | 107,063 | 104,027 | 99,151 | 86,122 | 93,258 |
| Western Slope and Riverina .. | 61,731 | 51,265 | 52,367 | 44,983 | 42,317 | 39,299 | 41,518 |
| Western Plains .. | 8,267 | 7,815 | 8,695 | 9,694 | 5,825 | 4,682 | 4,799 |
| Total .. .. | 438,211 | 358,411 | 400,183 | 411,498 | 416,053 | 399,327 | 420,148 |
| HORSES— | | | | | | | |
| Coastal District .. | 142,428 | 125,515 | 145,804 | 144,142 | 144,159 | 144,919 | 143,439 |
| Table-lands .. | 182,638 | 175,084 | 176,132 | 171,197 | 172,303 | 171,733 | 173,876 |
| Western Slope and Riverina .. | 143,474 | 141,953 | 143,069 | 139,530 | 136,514 | 133,061 | 134,435 |
| Western Plains .. | 49,641 | 45,391 | 45,631 | 43,165 | 38,577 | 32,487 | 29,667 |
| Total .. .. | 518,181 | 487,943 | 510,636 | 498,034 | 491,553 | 482,200 | 481,417 |

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It is estimated that at the end of the year 1901 the number of sheep in the state was 41,356,133; of cattle, 1,860,352; and of horses, 445,595.

## SHEEP.

The suitability of the land for pastoral pursuits was undoubtedly the means of leading the infant colony of New South Wales to take its first step on the path of commercial progress; and it is not a little surprising at this distance of time to note how steadily some of the settlers, in the face of the almost insurmountable difficulty of transport which existed a century ago, availed themselves of the opportunities at their disposal. The importation of valuable specimens of sheep from England or the Cape of Good Hope prior to the introduction of steam was at all times attended with great risk, and it frequently happened that many of these costly animals died during the tedious voyage; but in spite of all drawbacks, the industry was on the whole successful, and the flocks and herds of the colonists surely, if at first slowly, increased and multiplied.

By the year 1795, Captain Macarthur, one of the first promoters of sheep-breeding in New South Wales, had accumulated a flock of 1,000, which were held in great estimation, and gradually increased in value, until, as recorded by an entry in his journal ten years later, the market price of a fat wether had risen to £5. Not satisfied with the natural increase of his flocks, Macarthur sought to improve the quality of his fleeces, by which means he could see opening before him the promise of great wealth, and the prospect of establishing important commercial relations with Great Britain. With these ends in view, he procured from the Cape of Good Hope, at great cost and trouble, a number of superior rams and ewes. A happy circumstance occurred which favoured his enterprise: he had the good fortune to secure possession of three rams and five ewes of very fine Spanish breed, which had been presented by the King of Spain to the Dutch Government. These animals, out of a total of twenty-nine purchased at the Cape, arrived in Sydney in 1797, and were disposed of to various breeders. With the exception of Macarthur, however, those who had secured sheep of the superior breed made no attempt to follow up their advantage, being probably amply satisfied with the larger gains derived from the sale of an increased number of animals. Macarthur, on the other hand, thought little of present profits, and still less of breeding entirely for human consumption. Attentively watching the results of crossing his imported rams with the old stock, and systematically selecting the finer ewes which were the offspring for further mingling with the sires, he gradually improved the strain, and in a few years obtained fleeces of very fine texture which met with the ready appreciation of English manufacturers.

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It has been asserted that Macarthur was not the first to introduce merino sheep into Australia; whether this be so or not, there is no doubt that to him is due the credit of having been the first to prove that the production of fine wool could be made a profitable industry in this state.

Prior to the present century the production of the finest wool had been confined chiefly to Spain, and woollen manufactures were necessarily carried on in England upon a somewhat limited scale, which was not likely to improve in face of certain restrictions the operatives endeavoured to place upon their employers. These men, in support of their contention that the woollen trade could not be expanded on account of the limited supply of the raw material, argued that fine wool was obtainable only in Spain; and it was at this favourable period that Macarthur arrived in England with specimens of the wool obtained from his finest sheep, conclusively proving the capabilities of Australia as a wool-producing country. In this way he opened up with English manufacturers a small trade, which, as Australasian wool rose in public estimation, gradually increased until it reached its present enormous dimensions During his visit to England, Macarthur purchased an additional stock of ten rams and ewes of the noted Spanish breed, nearly equal in quality to those which in 1797 he had procured from the Cape of Good Hope. That these animals were the finest obtainable in Europe may be gathered from the fact that they had formed portion of a present from the King of Spain to George III. Macarthur, after his return to New South Wales, patiently continued for many years the process of selection, with such success that in 1858, when his flock was finally dispersed, it was estimated that his superior ewes numbered fully 1,000. Victoria secured a considerable portion of Macarthur's flock, and the process of breeding proceeded simultaneously in that and other adjacent colonies.

Although the increase in the numbers of the finer sheep was satisfactory, yet the importation of superior animals was not discontinued, and the stock of the colonies was augmented in 1823 and 1825 by the further introduction of Spanish sheep. Sheep-breeding was about this period commenced in the Mudgee district, the climate of which has produced a more favourable effect upon the quality of the fleeces than that of any other part of the state, and it is thence that the finest merinos are now procured. As might have been anticipated, the climate of Australia has in some respects changed the character of the Spanish fleece. The wool has become softer and more elastic, and while having diminished in density it has increased in length, so that the weight of the fleece has only slightly altered. The quality of the wool has thus, on the whole, improved under the beneficial influence of the climate, and if no further enhancement in its value can be reasonably hoped for, there is at least every reason to believe that Australasian wool will maintain its present high standard of excellence.

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The following table, showing the number at the close of each year since the separation of Queensland, illustrates the progress of sheep breeding in New South Wales:—

| Year. | Sheep. | Year. | Sheep. | Year. | Sheep. |
|---|---|---|---|---|---|
| 1860 | 6,119,163 | 1874 | 22,797,416 | 1888 | 46,503,469 |
| 1861 | 5,615,054 | 1875 | 25,353,924 | 1889 | 50,106,768 |
| 1862 | 6,145,651 | 1876 | 25,269,755 | 1890 | 55,986,431 |
| 1863 | 7,790,969 | 1877 | 21,521,662 | 1891 | 61,831,416 |
| 1864 | 8,271,520 | 1878 | 25,479,484 | 1892 | 58,080,114 |
| 1865 | 8,132,511 | 1879 | 30,062,910 | 1893 | 56,980,688 |
| 1866 | 11,562,155 | 1880 | 35,398,121 | 1894 | 56,977,270 |
| 1867 | 13,909,574 | 1881 | 36,591,946 | 1895 | 47,617,687 |
| 1868 | 15,080,625 | 1882 | 36,114,814 | 1896 | 48,318,790 |
| 1869 | 14,989,923 | 1883 | 37,915,510 | 1897 | 43,952,897 |
| 1870 | 16,308,585 | 1884 | 31,660,321 | 1898 | 41,241,004 |
| 1871 | 16,278,697 | 1885 | 37,820,906 | 1899 | 36,213,514 |
| 1872 | 17,566,048 | 1886 | 39,169,304 | 1900 | 40,020,506 |
| 1873 | 18,990,595 | 1887 | 46,965,152 | | |

The ratio of annual increase for the whole period is 4·8 per cent. Divided into four periods the ratios are—

1860–70 annual increase 10·3 per cent.
1870–80 ,, ,, 8·1 ,,
1880–90 ,, ,, 4·7 ,,
1890–1900 ,, decrease 3·4 ,,

Considering the unimproved condition of the pasturage over a great portion of New South Wales, it was apparent in 1891 that the state was overstocked, and graziers restricted the natural increase of their flocks by not putting to the rams a large number of ewes, especially those that were old or inferior in quality. Numbers of sheep were, moreover, boiled down for tallow and killed for export in a frozen state, so that not only was the increase of flocks arrested, but the year 1894 showed a falling-off of nearly five million sheep as compared with 1891, while in 1895 there was a further decline of nearly nine and a half million, of which the drought was responsible for five million. In 1896, despite the loss of nearly a million and a half sheep through the effects of the season, there was an increase in the flocks of over 700,000; but during the year 1897 there was a decrease of over 4,365,000, in 1898 a further decrease of 2,712,000, and in 1899 a still further decrease of 5,027,000, drought being accountable for 3,746,000. Altogether, in the course of the nine years from 1891 to 1900, it may be said that the unfavourable seasons have been responsible for the loss of 22,000,000 sheep alone. With the return of more favourable conditions there was, during the year 1900, an increase of about 3,807,000 sheep over the previous year, and the year 1901 should prove even more satisfactory.



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The changes which have taken place in the possessions of the sheep-owners of New South Wales may be traced in the following table, giving an approximate classification of the flocks for each year from 1891 to 1900, with the exception of the years 1895, 1898, and 1899, when the information was not compiled. It is significant that while in 1891 there were 73 holdings carrying flocks exceeding 100,000, in 1897 the number was only 21, and in 1900 only 14. Holdings having flocks of between 50,000 and 100,000 numbered 186 in 1891, and only 67 in 1900; holdings carrying from 20,000 to 50,000 decreased from 491 to 349 during the same period, and holdings with from 10,000 to 20,000 sheep numbered only 431 in 1900, as compared with 495 in 1891:—

| Year. | Size of Flocks. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1 to 1,000. | 1,001 to 2,000. | 2,001 to 5,000. | 5,001 to 10,000. | 10,001 to 20,000. | 20,001 to 50,000 | 50,001 to 100,000. | 100,001, and over. | Total. |
| | Number of Sheep. | | | | | | | | |
| 1891 | 2,794,751 | 2,979,168 | 5,493,942 | 4,943,221 | 7,056,580 | 15,553,774 | 12,617,206 | 10,392,774 | 61,831,416 |
| 1892 | 2,919,495 | 3,109,165 | 5,366,957 | 5,213,115 | 6,976,668 | 15,417,845 | 10,567,198 | 8,509,676 | 58,089,114 |
| 1893 | 2,852,943 | 3,110,361 | 5,293,544 | 5,092,959 | 6,722,825 | 14,966,272 | 11,296,811 | 7,644,073 | 56,980,688 |
| 1894 | 2,863,963 | 3,050,107 | 5,264,700 | 5,114,109 | 6,844,167 | 15,125,070 | 10,366,501 | 8,348,653 | 56,977,270 |
| 1896 | 3,478,953 | 2,995,765 | 4,976,835 | 5,073,474 | 6,861,268 | 13,722,536 | 7,692,687 | 3,527,272 | 48,318,790 |
| 1897 | 3,169,977 | 2,710,546 | 4,511,676 | 4,625,398 | 6,230,663 | 12,468,278 | 6,972,298 | 3,264,061 | 43,952,897 |
| 1900 | 3,471,775 | 3,263,864 | 4,725,271 | 4,824,604 | 6,206,402 | 10,686,291 | 4,564,309 | 2,066,475 | *40,020,506 |
| | * Including 208,515 unclassified. | | | | | | | | |
| | Number of Holdings. | | | | | | | | |
| 1891 | 7,606 | 1,954 | 1,696 | 686 | 495 | 491 | 186 | 73 | 13,187 |
| 1892 | 8,326 | 2,062 | 1,667 | 725 | 408 | 483 | 151 | 68 | 13,895 |
| 1893 | 8,468 | 2,041 | 1,640 | 717 | 475 | 477 | 162 | 53 | 14,033 |
| 1894 | 8,402 | 2,013 | 1,633 | 716 | 441 | 478 | 148 | 60 | 13,891 |
| 1896 | 9,038 | 1,706 | 1,339 | 628 | 438 | 382 | 96 | 27 | 13,653 |
| 1897 | 9,376 | 1,767 | 1,383 | 651 | 436 | 406 | 104 | 21 | 14,144 |
| 1900 | 10,646 | 2,152 | 1,462 | 676 | 431 | 349 | 67 | 14 | 15,797 |

The following table shows the loss which may be attributed to the season, being the number which the actual increase in each year fell short of what might reasonably have been expected in a fair season. Out of the twenty-seven years over which the information extends, nine years only showed no loss, or loss so slight as to be inappreciable. On the other hand, twelve seasons of opposite character were experienced, in which not only was there no increase, but an actual decrease from the number of the previous year; while in six years there was a relative increase over the previous year's totals, but an actual loss of sheep from drought. Further inspection will show that in 1884 the loss of sheep reached the enormous total of 8,138,000, a number larger than the total of the flocks in some of the other states. The loss in the year 1892 was 4,190,120, due chiefly to drought in the extreme western

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regions. In 1895 there was again a loss of no less than 4,913,300 by drought, which was general throughout the state; in the following year, 1,457,800 sheep were lost through the season; in 1897, drought was responsible for the loss of 2,985,100; and the years 1898 and 1899 saw a further loss of 2,460,700 and 3,746,000 respectively from the same cause. During 1900 the loss attributed to other than ordinary natural causes was only 1,077,000 :—

| Year. | Expected increase, allowing for all causes of natural decrease. | Actual increase or decrease. | Loss through Seasons. | Year. | Expected increase, allowing for all causes of natural decrease. | Actual increase or decrease. | Loss through Seasons. |
|---|---|---|---|---|---|---|---|
| 1874 | 3,807,000 | 3,807,000 | † | 1888 | 2,435,000 | *462,000 | 2,897,000 |
| 1875 | 2,556,000 | 2,556,000 | † | 1889 | 5,339,000 | 3,603,000 | 1,736,000 |
| 1876 | 1,915,000 | * 84,000 | 1,999,000 | 1890 | 5,880,000 | 5,880,000 | † |
| 1877 | 1,802,000 | *3,748,000 | 5,550,000 | 1891 | 5,845,000 | 5,845,000 | † |
| 1878 | 3,958,000 | 3,958,000 | † | 1892 | 439,120 | *3,751,000 | 4,190,120 |
| 1879 | 4,583,000 | 4,583,000 | † | 1893 | ‡488,926 | *1,099,426 | 610,500 |
| 1880 | 5,335,000 | 5,335,000 | † | 1894 | 672,282 | *3,418 | 675,700 |
| 1881 | 2,947,000 | 1,194,000 | 1,753,000 | 1895 | ‡4,446,260 | *9,359,560 | 4,913,300 |
| 1882 | 1,797,000 | * 477,000 | 2,274,000 | 1896 | 2,158,900 | 701,100 | 1,457,800 |
| 1883 | 3,193,000 | 1,801,000 | 1,392,000 | 1897 | ‡1,380,800 | *4,365,900 | 2,985,100 |
| 1884 | 1,883,000 | *6,255,000 | 8,138,000 | 1898 | ‡251,200 | *2,711,900 | 2,460,700 |
| 1885 | 6,160,000 | 6,160,000 | † | 1899 | ‡1,281,500 | *5,027,500 | 3,746,000 |
| 1886 | 3,409,000 | 1,348,000 | 2,061,000 | 1900 | 4,884,000 | 3,807,000 | 1,077,000 |
| 1887 | 7,796,000 | 7,796,000 | † | | | | |

* Decrease during the year. † No loss, or, if any, very slight. ‡ Expected decrease.

After allowing for the causes which naturally impede the increase in the flocks of the state, the demands of the slaughter-yard, the requirements of the neighbouring states, and the deaths occurring from other causes than drought, it will be found that the rate of annual increase may be as high as 20 per cent., so that it is possible for the flocks of New South Wales to increase two-fold in about four years. Actual experience shows that such rate of increase has only been approached once since the year 1861. During the period of five years from 1861 to 1866 there was a two-fold increase; and the flocks of the state were again doubled in the eight years from 1866 to 1874, and in the thirteen years from 1874 to 1887. How many sheep could be sustained under a system of artificial feeding and watering may hereafter become a question of national interest; but it is abundantly plain that with a succession of fair seasons it would be impossible, under the present mode of depasturing stock, for the state to support for any number of years an increase of sheep similar to that experienced in 1891, as in nine years' time the flocks would increase from the present number of 40,020,500 to 94,366,000—a total nearly equal to that now found in all Australasia. The stock-carrying capabilities of New South Wales are, however, very difficult to estimate, as by far the greater portion of the country is yet in its natural state. Improvements

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such as a better system of water conservation and irrigation, an intelligent extension of the growth of salt-bush, cotton-bush, and other drought-resisting shrubs and natural grasses, and the cultivation of artificial fodder, are gradually being effected, and will indefinitely extend the capacity for supporting stock of all descriptions.

The export and import of sheep during the last ten years is shown below. The figures for several years are somewhat in excess of the truth, as sheep are often crossed from one state to another for the convenience of station-holders, or in search of grass, and not for purposes of trade :—

| Year. | Exported. | Imported. | Year. | Exported. | Imported. |
|---|---|---|---|---|---|
| 1891 | 1,615,964 | 663,044 | 1896 | 744,578 | 1,010,176 |
| 1892 | 1,583,666 | 520,660 | 1897 | 1,022,295 | 1,171,794 |
| 1893 | 933,012 | 1,017,252 | 1898 | 1,311,880 | 700,718 |
| 1894 | 905,783 | 530,664 | 1899 | 1,200,331 | 498,111 |
| 1895 | 999,773 | 420,374 | 1900 | 754,849 | 374,678 |

The demand for sheep for local consumption was until recent years so small compared with the supply that it did not appreciably affect the increase of the flocks of the state. This, however, is not now the case ; the annual demand for food consumption within the state is about 7·5 per cent. of the number of sheep depastured—equal to three-fifths of the cast. The number slaughtered for export in a frozen or preserved state, and for tallow, brings up the total slaughtered to about 13 per cent. of the entire flocks.

The following table gives the number of sheep in Australasia at the end of 1900, and the proportion owned in each state and in New Zealand :—

| State. | Sheep. | Proportion owned in each State. |
|---|---|---|
| | No. | per cent. |
| New South Wales | 40,020,506 | 45·24 |
| Victoria | 9,338,700 | 10·56 |
| Queensland | 10,339,185 | 11·69 |
| South Australia | 5,283,247 | 5·97 |
| Western Australia | 2,431,861 | 2·75 |
| Tasmania | 1,683,956 | 1·91 |
| Commonwealth | 69,097,455 | 78·12 |
| New Zealand | 19,355,195 | 21·88 |
| Australasia | 88,452,650 | 100·00 |

It will be seen that New South Wales stands first in Australasia as a sheep-breeding country. Victoria is the most closely stocked province, and has a much larger proportion of its area devoted to agriculture than New South Wales has, but neither state has by any means reached the

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limit of its stock-carrying capacity. In Queensland, as in South Australia, sheep-breeding does not absorb the attention of pastoralists to the same extent as in New South Wales. The former state is more adapted to the breeding of cattle, whilst in the southern and more settled districts of South Australia greater attention is paid to the cultivation of cereals, its northern territory, like that of Queensland, being more adapted by nature to the breeding of cattle and horses. Western Australia is at present in the early stage of settlement; much of its area is still unknown, and it is therefore impossible to estimate its future as a sheep-breeding country. It may, however, be surmised that the southern portion of its immense territory will, in time to come, be stocked with sheep, whilst the northern portion will probably be found more suitable for the breeding of cattle and horses, on account of its resemblance to portions of Queensland and the northern territory of South Australia situated under the same latitude. It was thought at one time that cattle-breeding would occupy a position in New South Wales equal to that of sheep-breeding, but experience has shown that the general climatic conditions are more favourable to sheep than to cattle, and the state is probably destined to remain what it now is—the great sheep-breeding centre of Australia.

The different degrees of success attending sheep farming in various parts of the country have long since directed attention to the fact that every part of Australia is not equally fitted for the production of fine wools. New South Wales may be divided climatically into four zones:—(1) The coast country extending from the seaboard to the main range, the breadth of which varies from 20 to 100 miles; (2) the table-land districts on the summit of the range; (3) the upper part of the western slopes; and (4) the interior, or "salt-bush country."

The climate of the eastern seaboard for a considerable distance inland is too moist, and a large portion of it too poor, for the adequate sustenance of merinos, but it is probable that the coarser breeds of sheep would not deteriorate through the limited food supply and the rugged nature of the country. On the Hunter and other northern rivers, and in the southern coast districts, where the soil is very rich, dairy-farming and agriculture are the leading, and, no doubt, the most profitable industries. Sheep-breeding is carried on to some extent in the regions towards the summit of the coast range; but, as in the case of the country near the sea, the soil as a rule is unfavourable to sheep. On crossing the coast range, however, the contrast between the aspect of the country just entered and that left behind is very striking. Here the grazing and wool-growing capabilities are at once apparent, and farther to the westward a still greater improvement is visible.

In the abundant pastures of the Riverine districts the wool is less fine than in the country immediately west of the table-lands, but the fleeces are generally sound and heavy. Farther in the salt-bush country the wool suffers both in the weight of the fleece and in its quality; but the country is fattening, and the stock are generally more healthy than those

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nearer the sea. In the country on the other side of the Darling the great summer heat is adverse to the production of heavy fleeces; but even there a fair class of wool is produced, as the stock-owners are constantly introducing fresh blood, and so counteracting the tendency towards the degeneration of the breed of sheep which otherwise might ensue.

The importation of stud sheep from foreign countries, notably France, Germany, and America, which was continued for many years after the superfine quality of Australian wool had been established in the markets of the world, practically ceased even before importation was legally prohibited; for it had become apparent that the fleece, instead of showing signs of deterioration under the influence of the climate, had, on the whole, a tendency to improve. The introduction of sheep and cattle into New South Wales was forbidden for many years, owing entirely to the fear of the stock-owners that their flocks and herds might be contaminated by scab and other diseases prevalent in European flocks; but these restrictions were removed at the beginning of the year 1888, and there is now an import of pure-bred sheep from the United Kingdom, the United States, France, and Germany. So far, the breed imported has been chiefly the merino; but Lincoln, South Down, Vermont, Shropshire, and other well-known breeds have been introduced. In the course of the year 1900 the stud sheep imported from the other Australasian provinces numbered 20,136; while 48 stud rams and 47 ewes were introduced from America, and 14 rams from Germany.

It is now generally admitted that, so far as the fleece is concerned, the Australian merino has little to gain by any further admixture of European or American blood, but it is equally admitted that there is room for improvement in the physique of the animal. To produce a larger carcase, without interfering with the quality of the fleece, many experiments have been made, but without much success, and it has been found that the crossing of noted breeds of English rams with Australian ewes has invariably resulted, after a generation or two, in a deterioration of the merino. The breeding of sheep for consumption, and for the sake of the wool, has, therefore, developed naturally into two distinct fields of industry. It may here be mentioned that the carcase of the ordinary Australian merino, when dressed, averages about 46½ lb., whereas dressed carcases of the Lincoln or Leicester breed would average 57 to 60 lb. The food qualities of the merino are not appreciated in the London market, and its lean flanks and long fleshless leg bones make its appearance objectionable to the butcher, with the result that the improved prospects of export have induced growers to introduce large sheep for cross-breeding, in order to secure a heavier and more presentable carcase. It remains to be seen, however, how far the pasture and climate of the country hitherto devoted to the merino are suitable to the more gross-feeding cross-breed.

The various breeds of sheep in New South Wales are the Merino, Lincoln, Leicester, Downs, and Romney Marsh, and crosses of the long-woolled breeds, principally with the merino. At the close of 1900

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the respective numbers of merino and long-woolled sheep and cross breeds stood thus:—

| | |
|---|---|
| Merino | 36,699,156 |
| Long-woolled sheep | 1,676,284 |
| Cross-breeds | 2,245,066 |
| Total | 40,020,506 |

During the last ten years the English and cross-bred sheep have increased by 1,743,000, while the merinos have decreased in number from 60,252,000 to 36,699,000. Seventeen years ago the proportion of long-woolled and cross-breds was only 3½ per cent., and for fully ten years after it stood at about 2½ per cent. In 1893 the proportion rose to 4·3 per cent., and with the development of the meat export trade has now advanced to nearly 9 per cent. The following is a classification of the sheep in the state at the end of 1900 :—

| | | | |
|---|---|---|---|
| *Merino—* | | | |
| Combing— | | | |
| Pure and stud—Superfine | 1,465,579 | | |
| Ordinary | 3,982,538 | 5,448,117 | |
| Pure and stud—Medium | 2,404,604 | | |
| Ordinary | 9,668,618 | 12,073,222 | |
| Pure and stud—Strong | 2,010,198 | | |
| Ordinary | 7,626,885 | 9,637,083 | |
| Total Combing | | | 27,158,422 |
| Clothing— | | | |
| Pure and stud—Superfine | 425,973 | | |
| Ordinary | 1,160,999 | 1,586,972 | |
| Pure and stud—Medium | 937,278 | | |
| Ordinary | 4,027,002 | 4,964,280 | |
| Pure and stud—Strong | 796,112 | | |
| Ordinary | 2,193,370 | 2,989,482 | |
| Total Clothing | | | 9,540,734 |
| Total Merino | | | 36,699,156 |
| *Long-woolled—* | | | |
| Pure and stud—Lincoln | 269,200 | | |
| Ordinary | 309,798 | 578,998 | |
| Pure and stud—Leicester | 169,351 | | |
| Ordinary | 268,838 | 438,189 | |
| Pure and stud—Southdowns | 3,779 | | |
| Ordinary | 8,095 | 11,874 | |
| Pure and stud—Shropshire Downs | 13,729 | | |
| Ordinary | 4,662 | 18,391 | |
| Pure and stud—Hampshire Downs | 128 | | |
| Ordinary | 14 | | |
| Pure and stud—Romney Marsh | 15,068 | 142 | |
| Ordinary | 13,622 | 28,690 | |
| Total Long-woolled | | | 1,076,284 |
| *Crosses—* | | | |
| Long-woolled with Merino | | | 2,245,066 |
| Grand Total | | | 40,020,506 |

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The sexes and classes of sheep at the end of 1900 were estimated as follows :—

| | |
|---|---|
| Rams | 663,527 |
| Ewes | 18,487,193 |
| Wethers | 12,980,945 |
| Lambs | 7,888,841 |
| Total | 40,020,506 |

The climate of New South Wales admits of stock of all kinds being left in the open air, and there is no necessity for housing them during the winter months. The sheep are either kept in paddocks or under the care of shepherds, though on some stations they are both shepherded and paddocked. At the end of 1900 there were :—

| | |
|---|---|
| Paddocked | 38,878,098 |
| Shepherded | 807,427 |
| Paddocked and shepherded | 334,981 |
| Total | 40,020,506 |

The advantages of the paddocking system are now universally recognised ; the country will carry one-third more sheep ; the wool will be longer and sounder, and the fleece as a whole one-third better; the feed will be cleaner and less liable to grass-seed ; the sheep will increase in size ; they will live longer and continue longer profitable; they will be freer from foot-rot and other diseases ; the expense of working the station will be less than a quarter of what it would be if the sheep were shepherded; and finally, the owner will be able to devote the principal part of his time to improving his sheep, instead of spending it in attempting to manage a number of shepherds and hut-keepers.

It has also been found that the percentage of lambing is higher among paddocked than shepherded sheep. The percentage of lambs obtained from the ewes in Australia is, however, far lower than that experienced in the United Kingdom, where the ratio on account of twin lambs has been known to exceed 160 per cent., and over a series of years, amongst the Suffolk flocks, considerably exceeds 130 per cent. This result is doubtless due to the much greater care and attention bestowed on English sheep at the lambing season. During the year 1900, the lambs marked in New South Wales numbered 9,820,001. In his annual report, the Chief Inspector of Stock states that the number of ewes put to the ram was 13,009,555, which would give an average lambing of about 67 per cent.

The year 1899 closed with a total of 36,213,514 sheep ; the increase by lambing during the season was 9,820,001 ; and 374,678 sheep were imported, making a total of 46,408,193. On the other hand, 1,623,439 were slaughtered during the year for food for local consumption in the population centres ; 1,019,406 were killed for food on stations and farms ; 589,944 were taken by the meat-preserving works; 951,891 were frozen for export; 10,480 were boiled down for tallow at boiling-down works, and 1,866 were similarly treated on stations. In addition to these, 162,487

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lambs were killed for local food consumption, bringing the total number slaughtered during the year to 4,359,513; and during the year 754,849 live sheep were exported, 196,270 were killed by dogs, and 1,077,055 were lost in consequence of the dry season and by ordinary mortality. The decrease from all causes amounted, therefore, to 6,387,687, leaving the number of sheep on the 31st December, 1900, at 40,020,506, or an increase of 3,806,992 on the number depastured at the end of the previous year.

The relative advantages and profitableness of sheep-rearing and wheat-farming have been the subject of much discussion. The question is one, of course, to be settled largely by the circumstances of climate and soil; but while it is true that many districts unfit for cultivation are suitable for grazing, it may be said that the more suitable a district is for cultivation the greater are its capabilities for pastoral purposes, and in such circumstances the best results can be secured by the combination of both pursuits. Not only are wheat-fields fertilised and kept free from noxious vegetation by sheep, but the animals are better fed than is otherwise the case, and the risk of heavy stocking is reduced by utilising the cultivated land. Sheep turned on the land after the stripper has been used knock down the straw, eat the greater portion of it, and tread the rest in the soil, so that it is easily covered by the plough, and the weeds and other vegetation which spring up after the autumn rains make good pasture. Many farmers turn on the sheep again when the grain crop is a few inches high—a plan which, in addition to benefiting the sheep, proves advantageous to the crop, making it stronger and more productive, and enabling it to withstand the dry weather later on. The stubble field being available just when the summer grass is getting scarce, the sheep which would otherwise become poor are kept in good condition to face the winter. Sheep grazed on cultivated lands are remarkably healthy, and there is no better means of keeping them free from disease; fluke and worms are almost unknown, and there is considerably less foot-rot found amongst them. To what extent the stock-carrying capacity of the land is improved by cultivation it is difficult to say, but on good average land it may be put down at 25 per cent. On the whole, it may safely be said that with one-third or one-fourth of its area broken up, land will carry as many sheep on the portion not broken up as the whole area would carry in its natural state, and without taking into consideration the value of the crops harvested, the return derived from grazing alone would be larger than if sheep-rearing were followed by itself.

For many years experiments with lucerne as an adjunct to the natural herbage have been successfully carried on, and in fairly rich soil with good drainage its cultivation is strongly recommended. But it is strange that, with a view to fully utilising all available means of subsistence and thus providing for the fullest stocking capacity of the land, so few pastoralists turn their attention to root crops for feed—such as turnips, mangolds, sugar-beet, and carrots. Of course it is

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evident that many areas are entirely unsuitable for such crops, but pastoralists and farmers more favourably situated might, in addition to supplying their own needs, provide feed which would be eagerly availed of by those less favoured. These crops would become doubly valuable, as sheep travelled from the dry country could be depastured on bare paddocks and fed with the roots, leaving in the form of manure two-thirds of the valuable constituents extracted from the cropped area adjoining, so that the owner would not only be fully paid for his produce, but at the same time get paddock after paddock fertilised in a thorough manner for succeeding crops. Large areas in New England, Orange, Wellington, Tumut, Jerilderie, and other districts on the table-land and western slope, are available for such cultivation, and once pastoralists in the dry west discovered that they could bargain for agistment for portion of their stock, instead of travelling them almost hopelessly in search of natural herbage as at present, the fear of drought would to a large extent disappear. It seems apparent, then, that the general adoption of cultivation in connection with grazing is destined to play a great part in preserving the flocks of the state from the effects of unfavourable seasons.

## Wool.

The quantity of wool, the produce of New South Wales, exported during 1881, 1886, 1890, and annually thereafter, is given in the sub-joined table. A large proportion of the clip is exported to Europe, *via* the adjacent states, as already alluded to in the chapter on Commerce. During 1870 nearly 46 per cent. of New South Wales wool was shipped from ports outside the state, and in 1881 the proportion was 40 per cent., but in 1891 it had declined to 28 per cent. The mean annual average for the last ten years was 25 per cent., and for the last five years 24 per cent. The weights given are on the assumption that all the wool was shipped in grease :—

| Year. | N. S. Wales ports. | Victorian ports. | S. Australian ports. | Queensland ports. | Total. |
|---|---|---|---|---|---|
| | lb. | lb. | lb. | lb. | lb. |
| 1881 | 96,368,759 | 58,311,399 | 5,635,613 | 493,593 | 160,809,364 |
| 1886 | 129,648,558 | 50,637,389 | 24,482,136 | 318,395 | 205,086,478 |
| 1890 | 179,592,645 | 73,630,217 | 18,493,269 | 55,104 | 271,771,235 |
| 1891 | 269,018,130 | 84,503,002 | 20,649,150 | 573,133 | 374,743,415 |
| 1892 | 255,457,468 | 80,917,306 | 16,453,724 | 865,421 | 353,693,919 |
| 1893 | 261,997,595 | 79,133,762 | 19,394,617 | 1,116,319 | 361,642,293 |
| 1894 | 280,388,080 | 75,153,446 | 20,242,078 | 807,193 | 376,590,797 |
| 1895 | 259,350,468 | 65,593,464 | 15,694,626 | 699,623 | 341,337,925 |
| 1896 | 230,550,468 | 65,816,933 | 21,642,191 | 528,347 | 318,537,939 |
| 1897 | 234,325,908 | 53,583,146 | 13,769,974 | 342,277 | 302,021,305 |
| 1898 | 233,054,738 | 46,549,605 | 11,018,134 | 106,660 | 290,729,137 |
| 1899 | 195,358,799 | 43,699,945 | 14,325,637 | 190,196 | 253,574,577 |
| 1900 | 171,735,246 | 51,300,529 | 13,227,679 | 43,324 | 236,306,778 |

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Adding to the exports of New South Wales wool the quantity used locally in woollen mills, the total annual production, stated as in the grease, was as follows :—

| Year. | New South Wales Wool. | | |
|---|---|---|---|
| | Exported. | Used locally. | Total production. |
| | lb. | lb. | lb. |
| 1881 | 160,809,364 | 866,705 | 161,676,069 |
| 1886 | 205,086,478 | 886,595 | 205,973,073 |
| 1890 | 271,771,235 | 575,812 | 272,347,047 |
| 1891 | 374,743,415 | 857,252 | 375,600,667 |
| 1892 | 353,693,919 | 560,895 | 354,254,814 |
| 1893 | 361,642,293 | 1,222,389 | 362,864,682 |
| 1894 | 376,590,797 | 1,279,275 | 377,870,072 |
| 1895 | 341,337,925 | 1,702,461 | 343,040,386 |
| 1896 | 318,537,939 | 1,728,763 | 320,266,702 |
| 1897 | 302,021,305 | 1,293,320 | 303,314,625 |
| 1898 | 290,729,137 | 1,436,210 | 292,165,347 |
| 1899 | 253,574,577 | 1,258,784 | 254,833,361 |
| 1900 | 236,306,778 | 1,352,949 | 237,659,727 |

The proportion of the total clip reaching New South Wales ports compared with that which was despatched by way of Melbourne, Adelaide, and Brisbane, was as follows :—

| Year. | Shipped from New South Wales ports. | Shipped from other Australian ports. | Year. | Shipped from New South Wales ports. | Shipped from other Australian ports. |
|---|---|---|---|---|---|
| | per cent. | per cent. | | per cent. | per cent. |
| 1881 | 59·9 | 40·1 | 1895 | 76·0 | 24·0 |
| 1886 | 63·2 | 36·8 | 1896 | 72·4 | 27·6 |
| 1890 | 66·1 | 33·9 | 1897 | 77·6 | 22·4 |
| 1891 | 71·8 | 28·2 | 1898 | 80·2 | 19·8 |
| 1892 | 72·2 | 27·8 | 1899 | 77·0 | 23·0 |
| 1893 | 72·4 | 27·6 | 1900 | 72·7 | 27·3 |
| 1894 | 74·5 | 25·5 | | | |

As the season for exporting wool does not wholly fall within the calendar year, the quantity of wool stated in the table on page 586 for any year consists partly of that season's clip and partly of the previous one. The following table shows the total number of sheep shorn during the year, distinguishing those whose fleece was washed previous to shearing. It will be observed that most of the sheep are shorn in grease. This was not always the case; at one time nearly half the sheep were washed before being shorn. Several circumstances have led to the change, the principal being that the price obtained for

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washed wool in excess of greasy is not commensurate with the cost of washing :—

| Year. | Sheep. | | | | Lambs. | |
|---|---|---|---|---|---|---|
| | In grease. | H.-W. and Spout. | Creek-washed. | Scoured. | In grease. | Washed. |
| 1890 | 40,935,736 | ..... | 1,271,712 | 580,794 | 9,285,871 | 33,521 |
| 1891 | 45,619,967 | ..... | 426,201 | 1,093,886 | 10,531,106 | 31,542 |
| 1892 | 46,947,809 | ..... | 154,503 | 1,262,163 | 7,105,210 | 132,503 |
| 1893 | 45,348,757 | ..... | 81,169 | 1,007,549 | 7,482,936 | 169,698 |
| 1894 | 42,632,425 | 100,000 | 88,686 | 3,001,835 | 7,948,101 | 463,950 |
| 1895 | 38,925,708 | ..... | 23,006 | 1,857,663 | 4,731,387 | 147,893 |
| 1896 | 37,409,296 | ..... | 2,793 | 2,193,011 | 5,857,382 | 535,101 |
| 1897 | 36,206,151 | ..... | ..... | 2,306,097 | 3,725,278 | 192,224 |
| 1898 | 34,931,165 | ..... ... | ..... | 2,506,825 | 3,643,450 | 139,000 |
| 1899 | 29,352,299 | ..... | ..... | 1,805,213 | 3,269,462 | 142,950 |
| 1900 | 32,031,928 | ..... | ..... | 1,249,448 | 5,022,893 | 95,972 |

The average weight of fleece obtained during the ten years ended 1900 from sheep shorn in grease according to the returns of the Chief Inspector of Stock would appear to have been 5 lb. 13 oz., while scoured yielded 3 lb. 2 oz. During the same period lambs' fleeces seem to have averaged 2 lb. 1 oz. in grease, and 1 lb. 5 oz. when washed. The great improvement in the weight of the fleece during the last twenty-four years may be seen from the table given below ; and in connection with this matter, it may be pointed out that sheep-owners who until recently were unable to secure good blood have been enabled, in consequence of the low prices ruling at the annual sales during the last few years, to improve their flocks by the acquisition of superior stud rams. The table has been compiled from the annual reports of the Stock Department, but it would appear from other calculations that the averages prior to 1900 are somewhat understated.

| Year. | Estimated Average Weight of Fleece from Sheep shorn in the grease. | Year. | Estimated Average Weight of Fleece from Sheep shorn in the grease. | Year. | Estimated Average Weight of Fleece from Sheep shorn in the grease. |
|---|---|---|---|---|---|
| | lb. oz. | | lb. oz. | | lb. oz. |
| 1877 | 4 0 | 1885 | 5 7½ | 1893 | 5 15 |
| 1878 | 5 0 | 1886 | 5 5⅛ | 1894 | 6 1½ |
| 1879 | 5 1 | 1887 | 5 9 | 1895 | 5 11½ |
| 1880 | 5 7 | 1888 | 5 6½ | 1896 | 6 4 |
| 1881 | 5 0 | 1889 | 5 13½ | 1897 | 5 12½ |
| 1882 | 5 0 | 1890 | 5 11¾ | 1898 | 6 0 |
| 1883 | 5 2 | 1891 | 5 9 | 1899 | 6 0 |
| 1884 | 5 0 | 1892 | 5 6 | 1900 | 6 13 |

Of late years so much consideration has been given to the question of breeding that, in spite of the bad seasons experienced, the wool clips have been very good ; and notwithstanding the greatly diminished flocks of the last five years, the total production of wool, though smaller than that of the previous five years, has not by any means decreased

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proportionately. For the five years, 1891–95, the average flocks were 56,297,000 and the average annual production of wool was 362,726,000 lb., equal to an average of 6 lb. 5 oz., per head, taking sheep and lambs. For the last five years, 1896–1900, the average annual flocks were only 41,949,000, and the average annual yield of wool was 281,648,000 lb., equal to about 6 lb. 11 oz. per head. While, therefore, the flocks have decreased 25 per cent. during the two quinquennial periods, the total production of wool has fallen off only 13 per cent. The clips of the seasons 1893–4 and 1894–5 are the highest on record; but with two really good seasons the results then achieved would most likely be surpassed.

Wool is put up at the stations in packs of various sizes from 4 ft. 6 in. by 2 ft. 2 in. to 5 ft. 3 in., weighing from 10 lb. to 12 lb. On forty-three holdings the bales are "dumped" in a hydraulic press before leaving, and thus reduced to less than half their original length. For the season 1899–1900 the average weight of a bale of greasy wool was 369 lb., and a bale of washed wool 240 lb.

### Value of the Wool Clip.

The wool clip of Australasia is its most important item of production, and it may be said that the prosperity of the states in a large measure depends upon the wool market. The following table summarises the export trade in New South Wales wool during the period 1860–1900, and illustrates the growth of this important industry during forty-one years, whilst at the same time the fluctuations in the value of the clip may be easily followed. The weights given represent the actual exports, washed and greasy wool being taken together :—

| Year. | Quantity. | Total Value. | Year. | Quantity. | Total Value. |
|---|---|---|---|---|---|
| | lb. | £ | | lb. | £ |
| 1860 | 14,962,362 | 1,454,289 | 1881 | 139,601,506 | 7,149,787 |
| 1861 | 18,171,209 | 1,768,978 | 1882 | 146,221,182 | 7,433,091 |
| 1862 | 20,988,393 | 1,801,186 | 1883 | 188,161,710 | 9,598,761 |
| 1863 | 15,842,520 | 1,316,520 | 1884 | 173,986,303 | 8,953,100 |
| 1864 | 23,827,917 | 2,294,615 | 1885 | 168,151,659 | 7,246,642 |
| 1865 | 29,858,791 | 2,283,560 | 1886 | 173,985,640 | 7,028,596 |
| 1866 | 36,980,685 | 2,830,348 | 1887 | 216,450,342 | 8,911,155 |
| 1867 | 27,327,452 | 2,125,737 | 1888 | 235,848,944 | 9,089,776 |
| 1868 | 27,067,256 | 1,960,360 | 1889 | 261,853,484 | 10,620,636 |
| 1869 | 51,269,672 | 3,162,522 | 1890 | 236,322,828 | 8,991,396 |
| 1870 | 47,440,610 | 2,741,141 | 1891 | 331,887,720 | 11,036,018 |
| 1871 | 65,611,953 | 4,748,160 | 1892 | 312,225,293 | 10,211,456 |
| 1872 | 50,233,453 | 3,342,900 | 1893 | 318,782,858 | 9,675,061 |
| 1873 | 62,998,692 | 3,936,408 | 1894 | 331,774,424 | 9,011,790 |
| 1874 | 75,156,924 | 5,010,125 | 1895 | 297,448,104 | 8,958,690 |
| 1875 | 87,534,280 | 5,651,643 | 1896 | 272,033,262 | 8,776,529 |
| 1876 | 100,736,330 | 5,565,173 | 1897 | 258,514,280 | 8,023,893 |
| 1877 | 102,150,246 | 5,256,038 | 1898 | 249,066,912 | 8,329,287 |
| 1878 | 111,833,017 | 5,723,316 | 1899 | 205,394,780 | 10,020,495 |
| 1879 | 123,710,450 | 6,491,198 | 1900 | 203,738,195 | 7,632,213 |
| 1880 | 154,871,832 | 8,040,625 | | | |

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Adding to this the value of scoured wool used in the woollen mills of New South Wales, the total value of each year's production stands as follows :—

| Year. | Value of New South Wales Wool. | | Total Value. |
|---|---|---|---|
| | Exported. | Used locally. | |
| | £ | £ | £ |
| 1876 | 5,565,173 | 39,387 | 5,604,560 |
| 1877 | 5,256,038 | 43,531 | 5,299,569 |
| 1878 | 5,723,316 | 42,445 | 5,765,761 |
| 1879 | 6,491,198 | 52,059 | 6,543,257 |
| 1880 | 8,040,625 | 44,826 | 8,085,451 |
| 1881 | 7,149,787 | 37,414 | 7,187,201 |
| 1882 | 7,433,091 | 38,524 | 7,471,615 |
| 1883 | 9,598,761 | 36,210 | 9,634,971 |
| 1884 | 8,953,100 | 40,471 | 8,993,571 |
| 1885 | 7,246,642 | 29,092 | 7,275,734 |
| 1886 | 7,028,596 | 29,865 | 7,058,461 |
| 1887 | 8,911,155 | 30,015 | 8,941,170 |
| 1888 | 9,089,776 | 30,396 | 9,120,172 |
| 1889 | 10,620,636 | 22,453 | 10,643,089 |
| 1890 | 8,991,396 | 18,092 | 9,009,488 |
| 1891 | 11,036,018 | 23,287 | 11,059,305 |
| 1892 | 10,211,456 | 14,171 | 10,225,627 |
| 1893 | 9,675,061 | 29,423 | 9,704,484 |
| 1894 | 9,011,790 | 26,788 | 9,038,578 |
| 1895 | 8,958,690 | 37,896 | 8,996,586 |
| 1896 | 8,776,529 | 41,349 | 8,817,878 |
| 1897 | 8,023,893 | 29,586 | 8,053,479 |
| 1898 | 8,329,287 | 37,832 | 8,367,119 |
| 1899 | 10,020,495 | 47,917 | 10,068,412 |
| 1900 | 7,632,213 | 44,599 | 7,676,812 |

An examination of the figures on page 589 at once shows how greatly the fluctuations in the value of the staple article of export affect the national prosperity. For instance, the exports for the years 1884 and 1886, which may be taken as practically equal in quantity, represented a value of £8,953,100 in the former year, and of only £7,028,600 in the latter year. Again, comparing 1883 with 1894, there was a difference in quantity in favour of the latter year of 143,612,714 lb., and had the prices of 1883 been obtained the value of the 1894 clip would have exceeded that of the former year by £7,272,400, whereas there was an actual decrease to the amount of £586,971. In 1895, however, there was a rise in price, and the value of the exports in that year was £8,958,690 instead of £8,055,885, which the quantity shipped would have represented at the average price of 1894. On the basis of the Customs values, there was a further rise in 1896; in 1897 the average value was not quite so high, although still greater than in 1895; but the average value for the year 1898 was higher than it had been for the

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previous seven years, and there was a further rise in 1899. But during the year 1900, with a production nearly equal to that of the previous year, the value fell from £10,000,000 to £7,632,000. Viewing the table as a whole, although during the period under examination the value of wool has greatly fluctuated from one year to another, the tendency to a settled diminution of price is unfortunately too clearly discernible. It is satisfactory, therefore, to know that the market at the present time is firmer than it has been for some years past.

At one time almost all the wool was shipped on grower's account and sold in London, but of late years the proportion sold in the local markets has very largely increased, and European purchasers are realising the advantages of buying on the spot. The increasing importance of the Sydney wool sales will be manifest from the following figures:—

| Season. | Total deep-sea exports from Sydney and Newcastle. | Sydney Wool Sales. | | |
|---|---|---|---|---|
| | | Offered. | Sold at auction and privately. | Proportion of deep-sea exports sold in Sydney. |
| | bales. | bales. | bales. | per cent. |
| 1887-88 | 396,772 | 227,496 | 145,000 | 36·54 |
| 1888-89 | 450,095 | 268,264 | 200,000 | 44·43 |
| 1889-90 | 471,484 | 268,790 | 235,000 | 50·44 |
| 1890-91 | 564,285 | 333,876 | 245,779 | 43·37 |
| 1891-92 | 626,912 | 361,880 | 278,397 | 44·18 |
| 1892-93 | 631,888 | 398,010 | 362,365 | 56·82 |
| 1893-94 | 719,450 | 452,571 | 401,185 | 55·74 |
| 1894-95 | 755,769 | 488,509 | 425,135 | 56·25 |
| 1895-96 | 683,001 | 441,437 | 415,538 | 60·84 |
| 1896-97 | 690,034 | 437,284 | 401,048 | 58·10 |
| 1897-98 | 635,002 | 443,066 | 445,808 | 70·02 |
| 1898-99 | 646,477 | 438,229 | 447,517 | 69·22 |
| 1899-1900 | 552,472 | 419,120 | 399,893 | 72·38 |
| 1900-01 | 585,291 | 400,034 | 387,358 | 66·18 |

Of the 387,358 bales of wool sold in Sydney during the last season, it may be said that approximately 211,701 bales were purchased for the Continent of Europe, 92,910 bales for the English trade and for London on speculative account, 7,978 bales for America, 3,331 bales for Japan, and 71,438 bales by local scourers. The average prices per bale realised in Sydney during the last five years were £10 5s. in 1896-7, £10 8s. in 1897-8, £11 12s. 6d. in 1898-9, £18 10s. in 1899-1900, and £9 11s. in 1900-01; while in the London market an average of £12 was

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obtained in 1896, of £11 10s. in 1897, of £12 5s. in 1898, of £14 10s. in 1899, and of £13 10s. in 1900. The higher prices averaged in London, with the exception of the 1899-1900 season, are partly accounted for by the quantity of wool, such as locks, pieces, &c., sold in Sydney, being scoured prior to shipment, but chiefly by freight and other charges, which would amount to from 25s. to 30s. per bale, and which should be added to the Sydney average when comparing with the London average. With regard to the exception just referred to, when the Sydney figures were largely in excess of the London average for 1900, the boom in Sydney appears to have been phenomenal, and the best authorities in the trade are at a loss for a reasonable explanation. There was justification for a rise, but not to such an extent, and at the time when the great advance occurred there were no sales in the London market. When the London sales commenced there was no response to the rise in the Sydney market.

The prices realised for the different descriptions of wool at the Sydney wool sales during the last two seasons are given below :—

| Description. | Superior. | | Good. | | Medium. | | Inferior. | |
|---|---|---|---|---|---|---|---|---|
| | 1899-1900. | 1900-01. | 1899-1900. | 1900-01. | 1899-1900. | 1900-01. | 1899-1900. | 1900-01. |
| Greasy— | d. d. | d. d. | d. d. | d. d. | d. d. | d. d. | d. d. | d. d. |
| Fleece .. | 14¼ to 19½ | 8½ to 11 | 10½ to 14½ | 7 to 8½ | 7½ to 10 | 5½ to 6¾ | 6 to 7¼ | 3¾ to 5 |
| Pieces .. | 11 „ 16½ | 6¾ „ 8 | 8¼ „ 10¾ | 5¼ „ 6¼ | 6½ „ 8¼ | 4¼ „ 5 | 5¼ „ 6¼ | 3¼ „ 4 |
| Bellies .. | 8¾ „ 14¼ | 5¼ „ 7¼ | 7¼ „ 8¾ | 4 „ 5 | 6 „ 7 | 3¼ „ 3¾ | 4¾ „ 5¾ | 2¼ „ 3 |
| Lambs .. | 9 „ 15½ | 6½ „ 8¾ | 7¾ „ 8¾ | 5¼ „ 6 | 5½ „ 7 | 4 „ 5½ | 4 „ 5¼ | 2¾ „ 3¾ |
| Crossbred— | | | | | | | | |
| Fine .. | 11 „ 17¾ | 7 „ 8½ | 9 „ 10¾ | 5¾ „ 6¾ | 7¼ „ 8¾ | 4¾ „ 5½ | 5½ „ 7 | 3¼ „ 4½ |
| Coarse .. | 5¾ „ 6¾ | 5 „ 6 | 4¾ „ 5½ | 4¼ „ 4¾ | 4 „ 4½ | 3½ „ 4 | 3½ „ 3¾ | 2 „ 3 |
| Scoured— | | | | | | | | |
| Fleece .. | 23½ „ 30½ | 14¾ „ 19 | 19 „ 23½ | 13 „ 14½ | 16½ „ 18¾ | 11½ „ 12¾ | 15 „ 16½ | 9¾ „ 11 |
| Pieces .. | 21½ „ 28½ | 13¾ „ 16½ | 18 „ 21½ | 12 „ 13 | 16½ „ 17¾ | 10¾ „ 11½ | 14¾ „ 16 | 8¾ „ 10 |
| Bellies .. | 19½ „ 26½ | 12 „ 14¼ | 17 „ 19 | 10¾ „ 11¾ | 15¼ „ 16¾ | 8½ „ 10 | 14 „ 15 | 6¼ „ 7¾ |
| Locks .. | 15¾ „ 22¼ | 9¼ „ 11 | 13¼ „ 15½ | 8 „ 9 | 11 „ 13 | 7 „ 7¾ | 9 „ 10¾ | 4½ „ 6¼ |

In order to illustrate the fluctuations in the value of this staple during the last sixteen years, the following table has been compiled, and will give a fairly correct idea of the average value realised for greasy wool in the London market. The prices given were those ruling at the five principal sales of each year up to 1893, at the six sales in 1894, 1895, 1896, 1897, 1898, and 1899, and at the five sales in 1900 and 1901 :—

| Sales. | 1886. | 1887. | 1888. | 1889. | 1890. | 1891. | 1892. | 1893. |
|---|---|---|---|---|---|---|---|---|
| | d. | d. | d. | d. | d. | d. | d. | d. |
| 1st Series ..... | 7½ | 10½ | 8 | 9 | 10½ | 9 | 7¼ | 8 |
| 2nd „ ..... | 6 | 10 | 8 | 9½ | 10 | 10 | 8 | 8½ |
| 3rd „ ..... | 8 | 9 | 8 | 10 | 9 | 9½ | 7½ | 7⅝ |
| 4th „ ..... | 11 | 8¼ | 8½ | 10½ | 10 | 9 | 7½ | 8¼ |
| 5th „ ..... | 10 | 7½ | 8¾ | 11¼ | 9 | 8½ | 8 | 7 |

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| Sales. | 1894. | 1895. | 1896. | 1897. | 1898. | 1899. | 1900. | 1901. |
|---|---|---|---|---|---|---|---|---|
| | d. | d. | d. | d. | d. | d. | d. | d. |
| 1st Series ..... | 6 7/8 | 6 | 8 3/4 | 7 1/4 | 7 5/8 | 8 1/4 | 11 3/4 | 8 1/4 |
| 2nd ,, ..... | 6 5/8 | 6 1/2 | 9 1/4 | 7 | 8 | 8 1/2 | 10 3/4 | 8 |
| 3rd ,, ..... | 6 1/4 | 6 1/4 | 8 1/2 | 7 | 7 5/8 | 9 7/8 | 9 5/8 | 8 3/4 |
| 4th ,, ..... | 6 5/8 | 7 1/4 | 8 1/4 | 7 3/4 | 8 | 10 1/2 | 8 5/8 | 8 3/4 |
| 5th ,, ..... | 6 1/4 | 8 1/2 | 7 3/4 | 8 1/4 | 8 | 11 5/8 | 7 | 9 1/2 |
| 6th ,, ..... | 6 | 8 1/2 | 8 1/4 | 7 3/4 | 7 3/4 | 13 | ..... | ..... |

During the period covered by the foregoing table, Sydney-shipped greasy wool realised from 13d. to 6d. The maximum prices were realised during 1899, when the sales closed at 13d. per lb. Prices rose steadily from 7½d. at the beginning of 1886 to 10d. at the close of the year, gradually falling from 10½d. to 7½d. during 1887. From 1888 to 1891 the rates ranged from 8d. to 10d. From 1892 the tendency was downward from 8d. to 6d. until the end of 1895, when the average was over 8d., standing between 8d. and 9d. all through 1896. During 1897 and 1898 prices were rather lower, from 7d. to 8d., but at the sales of 1899 the rate rose steadily from 8¼d. to 13d. The 1900 sales opened at 11¾d., but gradually fell to 7d. at the end of the year. During the year 1901 prices ranged between 8d. and 9½d.

There is no cause to view unfavourably the further extension of the production of wool in these states. In the ancient seats of wool-growing, production is now stationary, and in some of the areas recently devoted to this industry, many causes, both climatic and otherwise, are likely to offer serious checks to its extension, while population, with the consequent demand for wool, is everywhere increasing. The wool supplies of the world have of late years shown no material increase, and there are no signs of an increase of production in the near future. It is probable too that any advance in the quantity of wool available from Australia or from the River Plate, will be more than counterbalanced by a restricted production in Great Britain, North America, and the Continent of Europe. The establishment of a market for Australian wool in Japan is now claiming attention, and it is not too much to expect that the shipments to Eastern countries will show a satisfactory increase in the early future.

It is a moot question whether the climate of New South Wales is better adapted to the production of a combing than a clothing wool. Although the former is looked upon with most favour by wool-growers, it is generally recognised that there are very large tracts of country, especially where the salt-bush predominates, on which it is difficult to raise a good combing wool, and where it will probably be found more profitable by wool-growers to give greater attention to the production of the clothing variety.

The quantity and value of wool, the produce of each of the Australasian provinces, exported during the year 1900, will be found



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hereunder. The weights given are on the assumption that all the wool was shipped in grease :—

| State. | Quantity. | Value. |
|---|---|---|
| | lb. | £ |
| New South Wales | 243,543,500 | 6,937,457 |
| Victoria | 49,028,000 | 2,289,341 |
| Queensland | 65,141,000 | 2,195,149 |
| South Australia | 35,677,400 | 984,835 |
| Western Australia | 9,328,800 | 270,718 |
| Tasmania | 6,675,900 | 256,245 |
| Commonwealth | 409,394,600 | 12,933,745 |
| New Zealand | 156,174,000 | 4,748,189 |
| Australasia | 565,568,600 | 17,681,934 |

The figures represent the net exports of the various states, and those given for New South Wales are therefore slightly different from the figures given on page 586, which show the exports of domestic produce as per Customs returns.

## Cattle.

Though still a most important industry, cattle-rearing does not now occupy so prominent a position as was formerly the case. The number of horned cattle returned at the end of each year since 1861 is shown in the subjoined table. It will be noticed that there was a great decline in the total from 1875 to 1885, but that the number steadily increased from 1885 to 1894, when it stood at 2,465,411. The drought experienced during the last three years, however, has been the chief cause in producing a diminution in the number depastured, the figures for 1900 being only 1,983,116 :—

| Year. | Cattle. | Year. | Cattle. | Year. | Cattle. |
|---|---|---|---|---|---|
| 1861 | 2,271,923 | 1875 | 3,134,086 | 1888 | 1,622,907 |
| 1862 | 2,620,383 | 1876 | 3,131,013 | 1889 | 1,741,592 |
| 1863 | 2,032,522 | 1877 | 2,746,385 | 1890 | 2,091,229 |
| 1864 | 1,924,119 | 1878 | 2,771,583 | 1891 | 2,128,838 |
| 1865 | 1,961,905 | 1879 | 2,914,210 | 1892 | 2,221,459 |
| 1866 | 1,771,809 | 1880 | 2,580,040 | 1893 | 2,269,852 |
| 1867 | 1,728,427 | 1881 | 2,597,348 | 1894 | 2,465,411 |
| 1868 | 1,761,411 | 1882 | 1,859,985 | 1895 | 2,150,057 |
| 1869 | 1,795,904 | 1883 | 1,640,753 | 1896 | 2,226,163 |
| 1870 | 2,195,096 | 1884 | 1,425,130 | 1897 | 2,085,096 |
| 1871 | 2,014,888 | 1885 | 1,317,315 | 1898 | 2,029,516 |
| 1872 | 2,287,660 | 1886 | 1,367,844 | 1899 | 1,967,081 |
| 1873 | 2,794,327 | 1887 | 1,575,487 | 1900 | 1,983,116 |
| 1874 | 2,856,699 | | | | |

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If the above figures be compared with the returns of sheep for the same period, it will be found that the change which has taken place in the class of stock has been most remarkable. It is very debatable whether the substitution of sheep for cattle will in the end prove advantageous to the state, though there does not appear to be any doubt that sheep-breeding is at present more profitable to the individual owner. The decrease in the number of cattle depastured in the state during 1900, compared with 1875, was 1,150,970. The lowest point in cattle-raising was reached in 1885, the result, no doubt, of continued bad seasons. Since then, the improvement has been gradual, and, though small, may yet be taken as evidence of the disposition of the pastoralists in some parts of the state to revert to the breeding of cattle in place of sheep. The decrease since 1894 has been chiefly due to the dry seasons.

An exact statement of the loss of cattle from disease and failure of water and grass can be made for eighteen years. Of these years, seven may be considered as having been favourable to stock, and seven disastrous, while in the other four years the losses have not been large. The following table shows the number of cattle lost through unpropitious seasons or disease. The cause of most of the losses was failure of grass and water; but in some years, notably 1890, the stockholders suffered greatly by the prevalence of the opposite condition of too much rain, inducing various forms of disease fatal to stock :—

| Year. | Expected Increase, allowing for all causes of natural decrease. | Actual Increase or Decrease. | Loss through Seasons. |
|---|---|---|---|
| 1883 | 114,900 | *219,200 | 334,100 |
| 1884 | 64,100 | *215,600 | 279,700 |
| 1885 | 30,600 | *107,800 | 138,400 |
| 1886 | 66,800 | 50,500 | 16,300 |
| 1887 | 207,600 | 207,600 | † |
| 1888 | 82,600 | 47,400 | 35,200 |
| 1889 | 118,700 | 118,700 | † |
| 1890 | 299,500 | 167,400 | 132,100 |
| 1891 | 137,300 | 137,300 | † |
| 1892 | 100,727 | 100,727 | † |
| 1893 | 172,493 | 48,393 | 84,400 |
| 1894 | 195,559 | 195,559 | † |
| 1895 | ‡150,113 | *315,354 | 165,241 |
| 1896 | 76,106 | 76,106 | † |
| 1897 | ‡80,522 | *141,097 | 60,575 |
| 1898 | ‡27,190 | *55,580 | 28,390 |
| 1899 | ‡33,876 | *62,435 | 28,559 |
| 1900 | ‡175,951 | *16,035 | † |

* Decrease during the year. † No loss, or, if any, very slight. ‡ Expected decrease.

The principal breeds of cattle now in the state are the Durham or Shorthorns, Hereford, Devon, Black-polled, Ayrshire, Alderney, Jersey,

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and crosses from these various breeds. At the close of the year 1900 the numbers of each breed, as far as could be ascertained, were :—

| | | |
|---|---|---|
| Shorthorns— | | |
| Pure and stud | 46,619 | |
| Ordinary | 529,806 | |
| | | 576,425 |
| Hereford— | | |
| Pure and stud | 25,722 | |
| Ordinary | 189,430 | |
| | | 215,152 |
| Devon— | | |
| Pure and stud | 9,993 | |
| Ordinary | 59,027 | |
| | | 69,020 |
| Black-polled— | | |
| Pure and stud | 1,349 | |
| Ordinary | 7,546 | |
| | | 8,895 |
| Red-polled— | | |
| Pure and stud | 124 | |
| Ordinary | 135 | |
| | | 259 |
| Ayrshire— | | |
| Pure and stud | 5,785 | |
| Ordinary | 28,371 | |
| | | 34,156 |
| Alderneys— | | |
| Pure and stud | 1,669 | |
| Ordinary | 7,025 | |
| | | 8,694 |
| Holstein— | | |
| Pure and stud | 188 | |
| Ordinary | 597 | |
| | | 785 |
| Jersey— | | |
| Pure and stud | 3,163 | |
| Ordinary | 15,191 | |
| | | 18,354 |
| Guernsey (Pure and stud) | | 9 |
| Kerry (Pure and stud) | | 1 |
| Crosses (estimated) :— | | |
| Shorthorn and Hereford | 275,807 | |
| Shorthorn and Devon | 145,574 | |
| Hereford and Devon | 61,903 | |
| Shorthorn and Black-polled | 20,676 | |
| Ayrshire and Shorthorn | 50,334 | |
| Alderney and Shorthorn | 1,389 | |
| Jersey and Shorthorn | 11,529 | |
| Holstein and Shorthorn | 910 | |
| Unrecognisable | 321,293 | |
| | | 889,415 |
| Total | | 1,821,165 |

There were, in addition, 161,951 head not classified, which were for the most part in the towns.

There has been a comparatively large increase in the number of milking cattle, as many of the stockowners, principally in the coastal districts, are turning their attention to dairying instead of fattening for market, and it is believed that this change will continue and in time become general throughout the state, as dairying, when properly carried out, yields very satisfactory returns. The number of milch cows is now 420,148. Further particulars in regard to the dairy industry will be found on page 614.

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The breed of cattle throughout the state is steadily improving—a result due to the introduction of good stud stock, to greater attention and care exercised in selection and breeding, more particularly for dairying purposes; and to culling and keeping in paddocks. In only nine out of the sixty-five stock districts of the state is it reported that there is actual deterioration in the quality of the cattle, accounted for by inattention to breeding. Cattle are for the most part kept in paddocks. Of the number shown on page 596, 1,460,718 were paddocked, 247,221 were on open runs, and 113,226 were depastured both ways.

During the year 1900, 816 pure-bred cattle were imported, chiefly from the other states of the Commonwealth. Importations from Europe and America were prohibited for many years, owing to the natural dread of the stockowners lest their herds should contract diseases which have devastated the cattle of other countries. The prohibition was removed in 1888, and cattle are now admitted after strict quarantine. The number so admitted in 1900, included in the above figures, was 2 bulls and 4 cows.

The number of breeding cows at the beginning of 1900 was estimated at 655,700, of which 399,327 were dairy cows. The calves branded numbered 290,726, or an average of 44·3 per cent. As the season was not unfavourable for cattle, about 60 per cent. of calves would have been a reasonable expectation. It is, therefore, plain that in a large number of instances the calves have not reached the age when they are usually branded. This was certainly the case with a large proportion of the calves dropped by what are termed dairy cows.

Australian cattle, probably because they live in a more natural state, are remarkably free from milk-fever and other complaints attendant on calving. A large number of calves are reared on separated milk, to which a little pollard or grain is added; but better results have been achieved by providing a foster-mother, three to four calves being allowed to each cow.

## Horses.

Australasia is eminently fitted for the breeding of horses, and attention has long been directed to this industry. At an early period the stock of the country was enriched by the importation of some excellent thoroughbred Arabians from India, and to this cause the high name which was acquired by the horses of Australia was largely due. The abundance of good pasture everywhere obtainable was also of great importance. The native kangaroo-grass, especially when in seed, is full of saccharine matter, and young stock thrive excellently upon it. This abundance of natural provender allowed of a large increase in the stock of the settlers, which would have been of great advantage had it not been that the general cheapness of horses led to a neglect of the canons of breeding. In consequence of the discovery of gold, however, a notable increase in price took place. Under ordinary conditions this circumstance would have been favourable to the breed,

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and such was the case in Victoria. But in New South Wales it was far otherwise; the best of its stock, including a large proportion of its most valuable breeding mares, was taken by Victoria, with the result that for twenty years after the gold rush the horses of the state greatly deteriorated. One class of stock only escaped—the thoroughbred racer was probably improved both by the importation of fresh stock from England, and by the judicious selection of mares. The period of deterioration ended about the year 1870, since which year there has been a perceptible improvement in all classes of horses. The number, too, steadily increased from 1883 to 1894, when it stood at 518,181. Owing to the drought, however, the number in 1895 fell to 487,943; but in 1896 there was an increase to 510,636, attributed to increased settlement, more breeding, and fewer sales owing to low prices. In 1897 the number of horses was 498,034; in 1898 it was 491,553, but in 1900 it had fallen to 481,417. This is above the number that, under existing conditions, can be profitably utilised in the state; but the exports are still few. The ruling prices at auction in Sydney for the various classes of horses during the two years 1899 and 1900 were as follow :—

| Class of Horses. | Prices. | |
|---|---|---|
| | Year 1899. | Year 1900. |
| | £ £ | £ £ |
| Heavy draught | 16 to 25 | 20 to 35 |
| Medium draught | 9 to 15 | 12 to 20 |
| Sound unbroken saddle | 5 to 11 | 8 to 14 |
| Broken in to saddle | 4 to 8 | 7 to 15 |
| ,, ,, ,, (extra good) | 15 to 25 | 20 to 30 |
| Broken in to harness | 6 to 12 | 8 to 16 |
| ,, ,, ,, (extra good) | 18 to 30 | 20 to 35 |
| Remounts for India, &c. | 11 to 23 | 15 to 28 |

The following table shows the number of horses at the end of each year since 1876 :—

| Year. | Horses. | Year. | Horses. |
|---|---|---|---|
| 1876 | 366,703 | 1889 | 430,777 |
| 1877 | 328,150 | 1890 | 444,163 |
| 1878 | 336,468 | 1891 | 469,647 |
| 1879 | 360,038 | 1892 | 484,309 |
| 1880 | 395,984 | 1893 | 493,231 |
| 1881 | 398,577 | 1894 | 518,181 |
| 1882 | 328,026 | 1895 | 487,943 |
| 1883 | 326,964 | 1896 | 510,636 |
| 1884 | 337,172 | 1897 | 498,034 |
| 1885 | 344,697 | 1898 | 491,553 |
| 1886 | 361,663 | 1899 | 482,200 |
| 1887 | 390,609 | 1900 | 481,417 |
| 1888 | 411,368 | | |

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The annual increase in the number of horses has not been greater than 1·14 per cent. during the twenty-five years covered by the above table, while the increase of population during the same period has been at the rate of 3·38 per cent.

For purposes of classification the horses of the state have been divided into draught, light-harness, and saddle horses, the numbers of each particular kind being as follow :—

| Class. | Thoroughbred. | Ordinary. | Total. |
|---|---|---|---|
| Draught ..... | 17,273 | 122,238 | 139,511 |
| Light-harness ..... | 12,394 | 99,255 | 111,649 |
| Saddle ..... | 26,922 | 170,730 | 197,652 |
| Total..... | 56,589 | 392,223 | 448,812 |

There were 32,605 horses not returned to the Stock Department, and they are therefore omitted from this classification.

New South Wales is specially suitable for the breeding of saddle and light harness horses, and it is doubtful whether these particular breeds of Australian horses are anywhere surpassed. The bush horse is hardy and swift, and capable of making very long and rapid journeys when fed only on the ordinary herbage of the country ; and in times of drought, when the grass and water have become scanty, these animals often perform astonishing feats of endurance. Generally speaking, the breed is improving, owing to the introduction of superior stud horses and the breeding from good mares. Where there has been a deterioration in the stock, it has been due to breeding from weedy mares for racing purposes, and to the effect of drought. At the end of the year 1900, it was reported by the Inspectors of Stock that in thirty-eight of the sixty-five districts into which the state is divided, the horses were improving in quality owing to the introduction of better sires ; in nineteen districts no improvement was shown ; while in only eight districts was there actual deterioration.

The approximate number of animals fit for market is as follows :—

| | |
|---|---|
| Draught horses ..... | 17,728 |
| Saddle horses ..... | 30,971 |
| Light-harness horses..... | 18,166 |
| Total ..... | 66,865 |

Of these, it is estimated that 15,830 are suitable for the Indian and China markets. The total number leaving the state for markets outside Australasia during 1900 was 11,385; which was an increase of 8,388 from the number shipped in 1899. In 1900 the horses sent to India numbered 1,688, as compared with 1,111 in the previous year. The number sent to South Africa was 7,714. The regular

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demand for horses in India is considerable, and Australia is a natural market from which supplies may be derived; but so far the number shipped has been but small, the speculation of sending horses to that country being open to many risks, as, apart from the dangers of the voyage, there is always an uncertainty as to the stock being accepted. As has already been stated, there was a demand from Western Australia during the years 1896 and 1897, over 1,000 horses being shipped to that state during the two years, but in 1898 and 1899 the number exported was only 74 and 115 respectively, and in 1900 the exportation had practically ceased. The total outside demand, however, in former years was small, and it was not, therefore, found advantageous to breed horses to any great extent except for local requirements, but since the outbreak of the war in South Africa the exportation from New South Wales has been considerable.

The following table shows the exportation of horses from New South Wales for the last ten years:—

| Year. | Horses exported to— | | | |
|---|---|---|---|---|
| | Other Commonwealth States and New Zealand. | India. | Other Countries. | Total. |
| 1891 | 3,489 | 440 | 351 | 4,280 |
| 1892 | 3,093 | 865 | 629 | 4,587 |
| 1893 | 2,657 | 213 | 492 | 3,362 |
| 1894 | 3,443 | 895 | 268 | 4,606 |
| 1895 | 3,523 | 1,064 | 632 | 5,219 |
| 1896 | 5,847 | 1,666 | 699 | 8,212 |
| 1897 | 6,954 | 1,189 | 676 | 8,819 |
| 1898 | 5,264 | 1,983 | 633 | 7,880 |
| 1899 | 8,200 | 1,111 | 2,085 | 11,396 |
| 1900 | 11,594 | 1,688 | 9,697 | 22,979 |

The foreign countries other than India to which horses are exported are chiefly South Africa, China, Fiji, New Caledonia, the Straits Settlements, and other Pacific Islands.

There is a market for horses for military purposes in Europe, and in view of the increasing facilities for shipment, and the possibility of breeding horses in Australasia superior to those imported from North and South America, Syria, and North Africa, the difficulties in the way of capturing part of the European trade should not be insurmountable. At the end of 1900 the number of horses in Great Britain was 2,000,415, as compared with 2,028,099 in the previous year. The number imported into Great Britain in 1895 was 34,092; in 1896, 40,677; in 1897, 49,519; in 1898, 42,921; in 1899, 43,899; and in 1900, 51,786. The total value of horses imported into Great Britain in 1900 was £1,350,493.

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## Pastoral Property.

Pastoral property and stock form the largest factor in the wealth, not only of New South Wales, but also of all the other principal states of Australasia, and the return derived therefrom is the largest source of the income of its inhabitants. The total capital value of pastoral property in the state, including land, improvements, and plant, as well as stock, was estimated in 1900 to be £135,396,000, of which £43,701,000 represented the value of land, £52,644,000 that of improvements and plant, and £39,051,000 that of stock. The value of land has greatly fallen during the past few years.

The value of stock does not include dairy cattle and swine; if these were added the amount would be £42,379,000, and the total value of all pastoral property, £138,724,000. In the above returns is included the value of improvements on Crown lands under lease to the pastoralists, which for the year under review was estimated to be £10,216,832. The capital value of the leased land is, of course, excluded from the general estimate. From the nature of the industry it is difficult to arrive at more than a general estimate of the return from pastoral pursuits as at the point of production; the Sydney values are, however, more easily ascertained, and are therefore given in the following estimate. From sheep the return for the year 1900 was approximately £10,719,000 excluding the value of tallow; from cattle, excluding dairy products, the return was £1,666,000; from horses, £780,000; and tallow, £542,000; or £13,707,000 in all. If from the total just given be deducted 10 per cent., a fair approximation is arrived at of the station value of pastoral products for the year 1900.

The number of stock in each state at the close of the year 1900 was approximately as follows :—

| State. | Sheep. | Cattle. | Horses. |
|---|---|---|---|
| New South Wales | 40,020,506 | 1,983,116 | 481,417 |
| Victoria | 9,338,700 | 1,898,752 | 431,547 |
| Queensland | 10,339,185 | 4,078,191 | 456,788 |
| South Australia | 5,283,247 | 472,428 | 179,352 |
| Western Australia | 2,431,861 | 338,665 | 68,231 |
| Tasmania | 1,683,956 | 165,516 | 31,607 |
| Commonwealth | 69,097,455 | 8,936,668 | 1,648,942 |
| New Zealand | 19,355,195 | 1,256,680 | 266,245 |
| Australasia | 88,452,650 | 10,193,348 | 1,915,187 |

The number of sheep and cattle runs in the state at the end of the year 1900 was 48,309, of which 42,565 were enclosed, and 5,744

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were open or unenclosed; 23,294 of the enclosed runs were properly subdivided into paddocks, and 19,041 were partially subdivided. The area comprised in these holdings was approximately 164,973,509 acres, about 46,043,244 acres being freehold, and 118,930,265 acres leased from the State. The improvements effected on pastoral estates have been valued at £52,644,000. Of this sum, fencing absorbs £31,544,864—representing 750,652 miles without wire netting, at an average rate of £34 13s. per mile, amounting to £26,012,560; and 77,684 miles with wire netting, at an average cost of £71 per mile, amounting to £5,532,304. The dams for watering stock numbered 48,044, at an average value of £68; and there were 55,071 excavated tanks, worth on an average £169; while the wells sunk or bored numbered 6,618, the average value of each being £130. Thus the total of all dams was £3,258,656; of tanks, £9,286,573; and of wells, £858,153. The value of improvements and plant other than those specified was about £7,695,792, representing ringbarking and buildings, the former estimated at £2,909,976, and the latter at £4,785,816.

## Public Watering Places.

The Public Watering Places Act of 1884 (48 Vic., No. 16) came into operation on the 1st January of that year. By this measure the construction and administration of the artesian bores and public watering places were entrusted to the Minister of Mines and Agriculture, subsequently being transferred to the Minister for Lands, and later on to the Minister for Public Works. After the transfer of the administration of the Act to the Public Works Department, certain sections of the same, with reference to the proclamation of reserves, were transferred to the Department of Mines and Agriculture, in accordance with the provisions of the Executive Councillors (Functions Substitution) Act.

The first successful artesian well sunk in New South Wales was on the Kallara Station in 1879. The spot selected for the experiment was near a mud spring, and after boring 140 feet water was tapped which rose 26 feet above the curb, and the flow has continued ever since. The Government first commenced boring in 1883; but in 1891, on the recommendation of the officer in charge, all the Government augers were withdrawn from the field, and since that date the work has been done by contract. The prices paid vary somewhat, the range being from 15s. 6d. to £1 10s. per foot for the first 500 feet; 15s. 6d. to £1 15s. up to 1,000 feet; 16s. to £2 up to 1,500 feet; 16s. to £2 2s. 6d. up to 2,000 feet; £1 1s. to £2 10s. up to 2,500 feet; £1 1s. to £3 10s. for depths up to 3,000 feet; £1 4s. 6d. to £3 up to 3,500 feet; and from £1 7s. 6d. to £3 up to 4,000 feet.

Public watering places are established on all the main stock routes of the state. These works consist of dams, wells, and artesian bores, and at the present time 188 tanks, 31 dams or reservoirs, 38 wells, 78 artesian

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bores and 22 open watering-places are in existence. The tanks have a capacity of up to 5,000,000 gallons, and in depth they range from 15 to 20 feet. They are so constructed as to be fed during rainy weather by surface drains. The soil from the excavations is embanked around, in order to afford shelter from the wind, and so lessen evaporation, and also, where the contour is favourable, to conserve water above the ground surface. The total storage capacity of the tanks and wells above mentioned may be set down at 600,000,000 gallons, and the wells, if regularly worked, will yield a total of 550,000 gallons per day. Except at those dams and reservoirs which are of large extent and capacity, stock are not allowed direct access to the tanks, but are admitted to troughs which are filled by means of service reservoirs, into which the water is raised by various methods—steam, horse, or wind power. From the wells the water is mostly drawn by whims and self-acting buckets. In addition to this supply, the 78 Government artesian bores on the various stock routes of the state yield approximately 36,000,000 gallons.

Of the dams, tanks, wells, and bores in existence, 218 have been let on lease for various periods, at rentals ranging from £1 to £255, the total rental receivable by the State being about £4,500. After being advertised in the *Government Gazette* and the local newspapers, the leases are submitted to public tender, the condition being that the tenant must constantly either reside at the watering place himself or provide a resident caretaker. In either case he may take stock on agistment and depasture a certain number of his own on the lands appertaining to the lease, and he is also encouraged to cultivate and improve such lands. He is permitted to charge a fixed scale for watering stock, viz. : 1d. per head for horses, 1d. for cattle, 1d. for camels, ½d. for goats and pigs, and 1s. per 100 or portion of 100 sheep. Water may also be sold for domestic purposes at 6d. per 100 gallons. Sixteen public watering places have been placed under the authority of trustees or municipal councils, this course being permitted by the Act when expedient. In addition to the above, 83 dams and waterholes are open to the public without any fee or regulations.

Among the uses to which artesian water is being applied is that of wool-scouring. Its suitability for this purpose has been abundantly proved by the operations which have been carried on during the past four seasons at the Moongulla Bore, on the Collarendabri Road. The wool treated there has been awarded a first prize at the Royal Agricultural Society's show, and has also been highly commended by leading wool merchants. Consequent upon the marked success thus achieved, similar operations were undertaken at the Bulyeroi, Woolabra, Carinda, Enngonia, Wallon, Moree, and Wilby Wilby Bores. This is now an established industry, with good prospects for the future.

The "Artesian Wells Act of 1897" provides that any occupier of land or any group of occupiers, may petition the Minister to construct an artesian well, and the necessary distributing channels for water. The

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petitioners are required to consent to the transfer to the Crown of an area, not exceeding 40 acres, embracing the site for the bore, and to pay such charges as may be assessed by the Land Board, which shall not exceed the yearly value to each occupier of the direct benefit accruing to his land from the construction of the bore and the supply of water from the same; but such charges cannot exceed 6 per cent. per annum on the cost of the works. Provision is also made for the Minister to take the initiatory steps when a group of settlers are not in agreement. It is enacted that a two-thirds majority, occupying two-thirds of the area of the land to be dealt with, shall rule, and that the minority must come into the scheme and pay proportionately with the others.

## Live Stock of the World.

The latest returns respecting the flocks and herds of the world, based on figures furnished in the report of the Statistician to the American Department of Agriculture, are given below. The important part which these states are destined to play in the wool markets of the world will be better understood when the character of the wool produced in Australia is made an item of comparison, as well as the actual number of sheep depastured :—

| Continent. | Cattle. | Horses. | Sheep. | Swine. |
|---|---|---|---|---|
| | No. | No. | No. | No. |
| Europe | 104,430,000 | 36,483,000 | 187,144,000 | 49,164,000 |
| Asia | 60,847,000 | 4,279,000 | 39,922,000 | 489,000 |
| Africa | 6,095,000 | 1,239,000 | 35,589,000 | 547,000 |
| America | 115,497,000 | 23,203,000 | 147,535,000 | 50,783,000 |
| Australasia* | 10,333,000 | 1,920,000 | 86,470,000 | 1,223,000 |
| Total | 297,202,000 | 67,124,000 | 496,660,000 | 102,206,000 |

* Including Pacific Islands.

In order to give a more definite idea of the development of the pastoral resources of New South Wales, the following table has been compiled, showing at quinquennial periods from 1860 to 1890, and annually thereafter, the stock that has been actually depastured in the state. For the sake of convenience, the numbers of cattle and horses are expressed in terms of sheep; that is, allowance has been made at the rate of ten sheep for each head of large stock, so that the total shows what would have been the result had the cattle and horses been replaced by their equivalent of sheep. There is also shown the number of acres of land

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to each sheep of the totals thus found, as well as the number of such sheep per head of the population :—

| Year. | Sheep. | Other stock expressed in terms of sheep. | Total. | Area per sheep. | Sheep per head of population. |
|---|---|---|---|---|---|
| | No. | No. | No. | acres. | No. |
| 1860 | 6,119,163 | 26,600,830 | 32,719,993 | 5·99 | 93·87 |
| 1865 | 8,132,511 | 22,444,920 | 30,577,431 | 6·40 | 74·73 |
| 1870 | 16,308,585 | 25,326,930 | 41,635,515 | 4·70 | 83·49 |
| 1875 | 25,353,924 | 34,917,820 | 60,271,744 | 3·35 | 101·42 |
| 1880 | 35,398,121 | 29,760,240 | 65,158,361 | 3·00 | 87·11 |
| 1885 | 37,820,906 | 16,620,120 | 54,441,026 | 3·60 | 57·33 |
| 1890 | 55,986,431 | 23,531,720 | 79,518,151 | 2·46 | 70·80 |
| 1891 | 61,831,416 | 25,061,320 | 86,892,736 | 2·25 | 74·56 |
| 1892 | 58,080,114 | 27,057,680 | 85,137,794 | 2·30 | 71·08 |
| 1893 | 56,980,688 | 27,630,830 | 84,611,518 | 2·32 | 69·16 |
| 1894 | 56,977,270 | 29,835,920 | 86,813,190 | 2·26 | 69·37 |
| 1895 | 47,617,687 | 26,380,000 | 73,997,687 | 2·65 | 57·91 |
| 1896 | 48,318,790 | 27,367,990 | 75,686,780 | 2·59 | 58·33 |
| 1897 | 43,952,897 | 25,831,300 | 69,784,197 | 2·81 | 52·72 |
| 1898 | 41,241,004 | 25,210,690 | 66,451,694 | 2·95 | 49·36 |
| 1899 | 36,213,514 | 24,492,810 | 60,706,324 | 3·27 | 44·75 |
| 1900 | 40,020,506 | 24,653,330 | 64,673,836 | 3·07 | 47·39 |

## DISEASES IN STOCK.

On the whole, the stock of New South Wales are comparatively free from disease, sheep and horses being remarkably healthy. The diseases of sheep recorded during the last ten years are anthrax, foot-rot, fluke, and worms. Scab has been unknown for many years, not only in this state but throughout the whole of Australasia, except Western Australia, where, however, the last traces of it disappeared in 1895. With regard to anthrax there was a considerable mortality a few years ago, and in the year 1890 the services of a representative of M. Pasteur were secured for the purpose of combating the disease. Though in consequence of not being conducted at the proper season operations were not at first satisfactory, success was established as the result of the second year's experiments. Between 1891 and 1893 the number of sheep vaccinated for anthrax was about 90,000 each year, but from 347,000 in 1895 it increased to 650,000 in 1896 and 1897, whilst the number vaccinated in 1898 was 1,227,000, in 1899, 1,063,000, and in 1900, 1,490,000. The increased vaccination is not so much indicative of a spread of the disease as it is a result of the more general belief in the efficacy of the operation, which it is gratifying to know has been the means of greatly reducing the mortality. No records are available as to the number or percentage of the flocks suffering from foot-rot, but taking the 65 sheep districts into which the state is divided, in the year 1891 it appeared in 37 districts, and during the five years ended 1895 from 35 to 40 districts were affected. It is less prevalent

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in dry seasons, and in 1896 it was reported from only 19 districts, from 5 districts in 1897, from 6 districts in 1898, from 5 districts in 1899, and from 6 in 1900. Fluke appears in much the same circumstances, being reported from 23 districts in 1891, and during the five years ended 1895 from 23 to 39 districts were affected; in 1896 it was prevalent in 22 districts, in 1897 in 13 districts, in 12 districts during 1898, in 14 districts during 1899, and in only 5 during 1900. The losses from fluke during the year 1897 were 44,000; during 1898, 27,000; during 1899, 8,000, and during 1900, 11,000. Similarly with parasitic worms, the flocks were infested in 34 districts in the year 1891; during the period 1891–95 on an average the disease was reported from 32 districts. During 1896 only 16 districts suffered, in 1897, 12, in 1898 and 1899, only 11 districts, and during 1900 only 9 districts. In the year 1891, 16 per cent. of the flocks were infested with worms; from 1891 to 1895 an average of about 14 per cent.; while during the five years ended 1900 the flocks have suffered to the extent of about 6 per cent.

Very little disease amongst horses is known in New South Wales. During the past ten years anthrax has never been reported from more than 2 or 3 districts; in 1896 and 1897 it existed in only 1 district, but cases of supposed anthrax were reported in 1898 from 3 districts, in 1899 from 1 district, but no cases were reported during 1900. Australian string-halt—considered to be due to intestinal parasites—is somewhat more common. During the five years, 1891–1895, it was found in only 3 or 4 districts, but in 1896 it was prevalent in 9 districts. Seven districts reported the disease in 1897, 5 in 1898, 3 in 1899, and 5 in 1900. Prurigo, or mange, affected the horses from 5 districts during 1891, from 6 in 1894, and from 4 in 1895. During 1896 it was also reported from 4 districts, from 1 in 1897 and 1898, from 2 in 1899, and 1 in 1900. In the year 1890 a rather severe outbreak of influenza —commonly known as pink-eye—occurred in the metropolitan district, and spread in the following year to 7 districts. In 1893 it had abated, but appeared periodically, to a slight extent, until the year 1897. In 1898 and 1899 it was reported from only 1 district, and disappeared in 1900. During the last ten years glanders has been unknown amongst the horses of this state, and though it was discovered among circus horses which arrived from America in 1891—six of which were destroyed—no other cases have since occurred. In 1894 and 1895 a considerable number of horses in the Lower Darling district were attacked with blindness, in some cases resulting in total loss of sight. No cases occurred in 1896, but the disease was reported again from 5 districts in 1897 and 1898, from 4 in 1899, and 5 in 1900. This ailment is now believed to have been due to parasites. Ophthalmia was reported from 4 districts in 1895, and from 1 district in 1897; in 1898 no cases were known, but 1 district was affected in 1899, and 5 in 1900. The number of horses lost during the year 1900 through various causes, principally drought, is set down at 13,800.

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The diseases most prevalent amongst cattle are pleuro-pneumonia, Cumberland disease (anthrax), black-leg (symptomatic anthrax), tuberculosis, cancer, actinomycosis, red-water, and ophthalmia. Poisonous plants also contribute to the mortality in cattle. There is no record of the extent of losses through pleuro-pneumonia, but the disease is of a settled character, being reported from an average of 26 districts annually during the past ten years. Inoculation has been practised as a preventive, with good results. In the year 1900, 30 districts were affected. Cumberland disease prevailed throughout an average of 6 districts during the last ten years, the average annual loss therefrom being over 500. The heaviest losses occurred in 1899, when 6 districts suffered a loss of 980 cattle, and in 1897 the loss from 10 districts was 870. In the year 1891 the loss was only 100; in 1895, only 300; and in 1898 the loss was 175 from 5 districts. The loss in 1900 was 525 from 5 districts. "Blackleg" was responsible for an annual average loss of 740 during the last ten years, being prevalent in 7 districts. The mortality was lowest in 1896 and 1897 when the loss was not more than 250 each year. In 1891 the loss was over 1,000, but the highest mortality from this disease was reached in 1898 when 6 districts lost over 1,400. In 1899 the loss was 624, and in 1900 525. The average annual loss from tuberculosis in cattle during the five years, 1889–1893, was nearly 3,000, the disease being reported from 25 districts, but it would appear that at this period cancer and actinomycosis were included with tuberculosis. The spread of tuberculosis is very marked, the number of districts affected in 1894 being 33; in 1897, 42; and in 1900, 43. The average annual number of districts affected with tuberculosis during the seven years ended 1900 was 39, the average annual loss having risen to nearly 4,500. In 1896 and 1897 the losses were as high as 5,200 and 5,800 respectively; in 1898 and 1899 the number of fatal cases was about 4,600 from 40 districts in each of the two years, while in 1900 the number was 4,028 from 43 districts. Apart from the spread of tuberculosis during the seven years, 1894–1900, cancer and actinomycosis were reported from 37 districts, the average annual losses from these diseases for the period mentioned being over 1,300. During the year 1900 the loss was 1,075 from 39 districts. The prevalence of red-water is confined to a few districts, and the loss therefrom is insignificant. In 1898 no cases were recorded. In 1899 and 1900 the deaths in one district from this disease numbered 15 and 18 respectively. On an average, 7 or 8 districts have suffered from ophthalmia during the last ten years. In 1889 and 1890 the losses from this disease were about 400 each year. During the following five years the losses recorded were very small, but in 1896 the mortality reached nearly 300; in 1897, nearly 700; in 1898 the loss was 500; in 1899 it was 374; and in 1900, 359. During the three years, 1894–96, an average of 400 cattle died through eating poisonous plants. The loss attributed to this cause was as high as 1,440 in 1897 and 1,180 in the year 1898; in 1899, it was 742; and in 1900, 1,116. It is

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believed that these deaths were due, in most cases, to hoven, arising from starving cattle gorging themselves with succulent vegetation.

Under the provisions of the Diseases in Sheep Act of 1866 (30 Vic., No. 16), and the Amending Acts of 1878 and 1882 (41 Vic., No. 19, and 46 Vic., No. 5), the state is divided into sixty-five sheep districts, the boundaries of which are defined by proclamation. In each district a Board of five directors is elected annually by the sheepowners, all who possess more than 500 sheep being entitled to vote, or to be elected. Owners of over 10,000 and under 20,000 sheep have two votes; over 20,000 and under 30,000, three votes; and those possessing more than 30,000, four votes. In addition, there are a chief inspector and inspectors, who are appointed by the Government, and who have power to enter on any run at any time and examine the sheep thereon. In order to provide funds for this work, all sheepowners are required to pay a contribution of £1 per 1,000 or portion of 1,000 sheep, but persons owning less than 500 sheep are exempt.

Every precaution is taken to prevent the introduction of disease from outside the state, and importations of live stock are regulated by the Pastures and Stock Protection Act of 1898, which is a consolidation of the Act of 1871 and the Amending Acts of 1884 and 1896. Regulations regarding the introduction of foreign stock are issued by proclamation under the Act from time to time. Cattle, sheep, and swine from Great Britain and Ireland, Germany, Belgium, the United States, and Canada, and horses, dogs, camels, and certain other live stock, from any country except Africa or the Indian Archipelago, are admitted, but must be accompanied by a declaration from the owner or breeder and the master of the vessel, and a certificate from an authorised officer inspecting the stock at the port of shipment. They are subject to inspection on arrival, and, if found free from disease, are removed to quarantine for the prescribed term. Fittings and other articles used in connection with the stock may be landed by permission of the Chief Inspector of Stock, but subject to disinfection. The importation of cattle, sheep, and swine from all countries other than Great Britain and Ireland, Germany, Belgium, the United States, and Canada; and of horses, dogs, camels, and other live stock from Africa and the Indian Archipelago is absolutely prohibited. Also all stock, and all carcases, hides, wool, etc., arriving in any vessel which has, with such stock, etc., on board, called at any port in the Indian Archipelago are prohibited. Fodder, etc., for the use of stock on board, may not be landed, except from intercolonial vessels.

With regard to the neighbouring states, horses, cattle, sheep, swine, and dogs, accompanied by a declaration from the owner and an inspector's certificate, may, after inspection here, be introduced from Victoria, Tasmania, New Zealand (excepting pigs, which are prohibited), and from the southern portion of South Australia. From the northern territory they are prohibited. The importation of stock from Western Australia is prohibited, with the exception of horses and camels in

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actual work, which are admitted subject to the ordinary conditions. From the northern portion of Queensland, defined by quarantine boundaries, all stock are absolutely prohibited: but from other portions of that state they may be introduced subject to certain conditions. Swine are prohibited from the whole of Queensland. The term of quarantine for foreign stock is as follows:—For horses, 14 days; cattle, 40 days; sheep, from 30 to 60 days; camels, 90 days; buffaloes, goats, deer, and other ruminants, 60 days; swine, 60 days; and dogs, 6 months. Stock admitted from the other Australian provinces are not quarantined.

The number of animals quarantined during the last ten years was as follows:—

| Year. | Horses. | Cattle. | Sheep. | Dogs. |
|---|---|---|---|---|
| 1891 | 74 | 26 | 432 | 31 |
| 1892 | 29 | 7 | 229 | 43 |
| 1893 | 22 | 8 | 55 | 78 |
| 1894 | 19 | 9 | 20 | 53 |
| 1895 | 11 | 5 | ..... | 78 |
| 1896 | 20 | 9 | 65 | 70 |
| 1897 | 13 | 2 | 136 | 60 |
| 1898 | 13 | 82 | 247 | 54 |
| 1899 | 23 | 1 | 129 | 56 |
| 1900 | 42 | ... | 109 | 28 |

If stock on arrival are found to be infected, the animals are in certain cases at once destroyed, and in others treated as the Chief Inspector may direct. No stock have been destroyed in quarantine under this provision since 1891, when six circus horses suffering from glanders were killed.

Further precautions for the protection of the health of the live stock of the state are taken under the Animals Infectious Diseases Act of 1888 (56 Vic., No. 17), which makes it illegal for persons, unless specially licensed by the Minister for Lands, to keep or propagate disease microbes, or to inoculate animals therewith.

### Tuberculosis.

The New South Wales legislation in connection with animals known or suspected to be suffering from tuberculosis, anthrax, actinomycosis, and cancer, is of a stringent character; and whether, in the light of the results of recent investigation, it is desirable to seek further legislative powers in order to provide means for the detection of the disease, is a question now undergoing discussion. The Government appointed a Royal Commission to inquire into the matter, but in December 1899, it was closed, and it is understood that steps will be taken later on to bring the investigation to a definite conclusion. At present the Board of Health inspectors in the state are empowered to seize any animal suffering from or showing symptoms of tuberculosis or other specified disease, and to institute proceedings. In case of condemnation, should the owner of the animal



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object to the action taken by the Court, a post-mortem examination is conducted by the nearest Government medical officer, and should it be found that the animal seized is not affected—a very rare occurrence—compensation is given in accordance with a value previously agreed upon by the owner and the Court. No compensation is made in the case of diseased beasts, but the amount realised from the sale of the hide, horns, etc., and the value of the tallow from boiling down, go to the owner of the animal. Special attention is directed to animals sold or exposed for sale, and to meat and milk. Meat condemned by the Court is destroyed, or so disposed of as to prevent its consumption as human food, and the owner, or the person in whose possession it is found exposed for sale, is liable to a penalty of £20 for each carcase or piece of meat condemned. In addition to the ordinary inspectors, there are six special officers—veterinary surgeons—appointed under the Board of Health, whose duty it is not only to inspect, but to give instructions and advice. In the metropolitan district assistance is also given by the municipal authorities, and similar arrangements have been made in other towns.

### Tick Fever.

The dreaded tick which has infested the cattle herds of a considerable portion of the northern districts of Queensland, South Australia, and West Australia, has not yet made its appearance in New South Wales, and the Stock Department is making every effort to prevent its introduction into the state. It has recently advanced nearer to the New South Wales border, and the country between Brisbane and Maryborough in Queensland is becoming more closely infested. How best to deal with the evil, should it make its appearance, is a question which is causing much discussion. The practice of inoculating immune cattle with "recovered" blood is advocated by many, and some time ago the Bacteriologist to the Board of Health made certain experiments, as a result of which he came to the conclusion that, first, inoculation is efficacious as a preventive of tick-fever; secondly, it may be attended by after-results which, though milder, are similar to those following natural tick-fever, and the significance of which it is not easy to estimate, but during the period of the effects the meat of cattle slaughtered will be inferior; and, thirdly, the quality and quantity of milk will not be affected. The balance of evidence he considered is in favour of inoculation, which he regards, in spite of drawbacks, as a perfectly justifiable procedure in view of the possible appearance of the tick in New South Wales. At present, however, opinion seems to be divided as to the advisability of taking this course, the objection being taken that in view of the present imperfect knowledge of the disease the introduction of tick organisms is a dangerous experiment.

The Royal Commission which was closed in December, 1899, made some inquiry into the tick disease, which will probably form the subject of further discussion when fresh steps are decided on.

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## Noxious Animals.

The only large carnivorous animal in Australia at all dangerous to stock is the dingo, or native dog; but animals which consume the pasturage, such as kangaroos, wallabies, hares, and rabbits, are deemed by the settlers equally noxious. The rabbits are the greatest pest; at one period over 100,000,000 acres were infested with them, and 25,280,000 were destroyed in one year, and their skins paid for by the Government.

Rabbits first found their way into this state from Victoria, where some were liberated upwards of thirty years ago in the Geelong district. Their presence first attracted serious attention in 1881, when, in the Address-in-Reply to the Governor's speech at the opening of Parliament, regret was expressed that the Ministerial programme did not include a Bill to deal with them. Although this suggestion was ridiculed at the time it was made, complaints began to be heard in the south-west of this country of the damage being done by the rabbits, which multiplied so rapidly that in 1882 they were to be met with on most of the holdings having frontages to the Murray. Attempts made to cope with them under the Pastures and Stock Protection Act were ineffectual, and on the 1st May, 1883, a Bill having for its object their destruction became law. This Act (46 Vic. No. 14), known as the "Rabbit Nuisance Act," provided for the compulsory destruction of rabbits by the occupants of the land, who were to receive a subsidy from a fund raised by an annual tax upon stockowners. This fund soon proved inadequate, and from the 1st May, 1883, to the 30th June, 1890, when the Act was repealed, it was supplemented by £503,786 from the Consolidated Revenue. The following table shows the amount of assessment for each year during which the Act was in operation:—

| Year. | Amount of Tax. | Year. | Amount of Tax. |
|---|---|---|---|
| | £ | | £ |
| 1883 (from 1st May | 490 | 1888 ..... | 157,252 |
| 1884..... | 84,830 | 1889 ..... ..... | 98,312 |
| 1885... ..... | 159,554 | 1890 (to 30th June) | 4,714 |
| 1886..... | 115,711 | | |
| 1887..... .. ... | 210,594 | Total .....£ | 831,457 |

In addition to this amount of £831,457 and to the Government contribution of £503,786, landowners and occupiers are estimated to have contributed £207,864, so that the total cost during the above-mentioned period exceeded £1,543,000.

The Rabbit Act of 1890 (54 Vic. No. 29) repealed the 1883 Act and those provisions of the Pastures and Stock Protection Act (44 Vic. No. 11) relating to rabbits. It also provided for the proclamation from time to time of Land Districts as "infested," and for the encouragement of

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the erection of rabbit-proof fences. The new Pastures and Stock Protection (Rabbit) Act of 1900 includes rabbits as "noxious animals." From the 1st July, 1890, to the 31st December, 1900, the State expenditure on account of rabbits was only £40,793, the greatest part of which —£29,508—has been devoted to the erection of rabbit-proof netting. In August, 1887, the Government offered a reward of £25,000 to any person who would make known a process for the effectual extermination of the pest; but the offer was subsequently withdrawn. Conferences of landowners and pastoralists on the subject of rabbit destruction were held in October, 1885; June, 1886; and April, 1895.

A wire-netting fence, 346 miles in length, following the boundary between New South Wales and South Australia, from the Murray northwards, has been erected by the New South Wales Government, the cost of its repair being shared by the Government and the owners of the holdings adjoining the fence. A rabbit-proof fence has been erected at the public expense between Barringun on the Queensland border and the River Darling at Bourke, a distance of 84 miles, the cost of its maintenance being borne by the owners of the holdings adjoining it. In addition to this, the whole of the fence along the western side of the railway line from Bourke, *via* Blayney and Murrumburrah, to Corowa in the extreme south of the state, a distance of 612 miles, has been rendered rabbit-proof, the Railway Commissioners undertaking the work of supervision. Another rabbit-proof fence has been erected at the joint expense of the Governments of Queensland and New South Wales, from Mungindi to the Namoi River, a distance of about 115 miles, at a cost of about £55 per mile, the netting used being 16 gauge, 1½ inch mesh, and 42 inches wide—thus making the total length of State-constructed barrier-fencing 1,157 miles at the end of 1900. It is estimated that altogether about 18,000 miles of wire-netting fences have already been erected, and it is known that many hundreds of miles are now in course of erection. The same kind of netting has not been used on all lines of fencing. On the line from Corowa to Narromine the netting is 17 gauge, 1½ inch mesh, and 42 inches in width. The contract price for this netting was £31 per mile, and the cost of the fence about £50 per mile. On the South Australian border, netting of 17 gauge, 1½ inch mesh, and 42 inches in width, was used, of a contract price of £37 per mile of netting, and a total cost of £76 per mile of fence. The netting used on the line from Narromine to Bourke is 16 gauge, 1½ inch mesh, and 48 inches wide. The contract price for this netting was £48 10s. per mile, and the cost of the fence about £84 per mile. On the fence erected on the Queensland border by the Government of that State, netting of 16 gauge, 1½ inch mesh, and 48 inches in width has been used.

It is evident that the rabbit has become a far greater pest to the pastoralists than any of the indigenous animals of the country, but this is compensated for in some slight measure by the export trade which has sprung up in the frozen animal and in rabbit skins. During the

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last six years there has been a considerable export of rabbit skins, in 1895 to the value of £12,695; in 1896, £9,952; in 1897, £9,183; in 1898, £4,756; in 1899, £6,875, and in 1900, £4,182. A trade has also been begun in frozen rabbits and hares, the export of which was commenced in 1895. For four years the export was small, viz., to the value of £519 in 1895, £390 in 1896, £555 in 1897, and £795 in 1898; but in 1899 the value reached £3,073, and in 1900 £4,537. It is probable that there will always be a good demand for rabbits and hares in the United Kingdom as the flesh stands freezing better than mutton and beef, which deteriorate to some extent by the process; like veal and lamb, however, rabbits and hares are improved by freezing. The total importation of frozen rabbits into Great Britain in 1897 was 13,823 tons, valued at £543,494, no less than 8,396 tons, equal to about 390,000 sheep, being imported from Australia and New Zealand. Indeed, the disposal of the early stocks of rabbits in the autumn had a somewhat adverse effect on the sales of frozen mutton for a few weeks, and there was in consequence a diminished demand for Australian and Argentine mutton. In 1898 the total British importation was 15,720 tons, valued at £573,000, of which 10,246 tons, valued at £275,000, came from Australia and New Zealand. In 1899 there were 18,865 tons imported, to the value of £639,000, of which 13,327 tons, valued at £342,000, were from Australia and New Zealand. During 1900 the total import was 23,658 tons, valued at £730,000, of which 19,359 tons, to the value of £494,050, were from Australia and New Zealand.

The Pastures and Stock Protection Act (44 Vic. No. 11) and the Amending Act (45 Vic. No. 23) provide for the appointment in each sheep district of eight directors, of whom five are the sheep directors for the district and three are owners of large stock, elected annually by owners of not less than ten head. Those whose stock do not exceed 500 in number are entitled to one vote; those who have from 500 to 2,000, to two votes; from 2,000 to 5,000, three votes; and owners of upwards of 5,000, four votes. Power is given to the directors to take measures to ensure the destruction within their districts of all noxious animals, and to pay as rewards for such destruction, by way of bonus, such sums as may be fixed by the Board from time to time. The inspectors of sheep act in their respective districts as inspectors under this Act. To carry into effect the various provisions of the Act, assessments are levied, not exceeding in the annual aggregate 3d. per head of large stock and ½d. per head of sheep. Owners of less than 100 sheep or 10 head of large stock are exempted. The amount of assessment collected during 1900 was £30,407. The Government subsidy was £6,576.

For the destruction of noxious animals other than rabbits, the total amount expended in 1900 was £35,383. The number of kangaroos destroyed during the year was 5,114; of wallabies, 759,173; kangaroo rats, 144,954; wombats, 1,610; bandicoots, 47; pademelons, 27,813; wild pigs, 5,356; hares, 571,847; native dogs, 11,403; eagle-hawks,

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9,946; crows, 184,107; and foxes, 2,682. The loss of stock from native dogs is reported to have been 135,714 sheep, valued at £59,817; while the loss from tame dogs is returned at 60,556 sheep, valued at £34,612.

The reward paid for scalps of noxious animals differs greatly according to the locality, and is determined by the various Boards. The prices paid during 1900 were as follow:—For kangaroos, from 1d. to 6d.; wallabies, from ½d. to 3d.; pademelons, from ½d. to 2d.; hares, from 1d. to 6d.; kangaroo rats, from 1d. to 6d.; bandicoots, 2d.; native dogs, from 5s. to 40s.; pups, from 2s. 6d. to 10s.; wombats, 6d. to 1s.; wild pigs, from 3d. to 6d.; eagle-hawks, from 6d. to 3s.; crows, from 1d. to 9d.; foxes, from 2s. 6d. to 40s., and rabbits 1d. to 2d.

Kangaroos are reported to be increasing in four districts, wallabies in sixteen districts, native dogs in twelve districts, hares in seven districts, and wild pigs in one. In twenty-four districts kangaroos are decreasing, wallabies in seventeen, native dogs in fifteen, hares in fourteen, and wild pigs in four districts.

## Dairy Farming.

The dairying industry of New South Wales has made considerable advance during the last few years. As a profitable enterprise it was formerly pursued mainly in the south coast district; but it is in the northern coastal regions, notably on the Clarence, Richmond, and Tweed Rivers, and to a less extent on the Macleay, Manning, Bellinger, Hastings, and the Lower Hunter, that the greatest expansion has taken place, the inducements offered by the north having led to the migration of many settlers from the southern districts. Contrasting the progress of the two districts between 1895 and 1899, it may be stated that in the counties of the north coast and Lower Hunter the number of dairy cows increased from 73,354 in the former year to 145,973 in the latter, while in the south coast and Cumberland district the numbers stood at 124,082 in 1895 and 134,600 in 1900—that is to say, the increase during the five years was equal to 99 per cent. in the north coast, and only about 8·5 per cent. in the south. The production of butter in the north coast and Lower Hunter district was 16,824,005 lb. in 1900 as compared with 5,506,613lb. in 1895, or an increase of about 205 per cent.; while in the south coast and Cumberland district the quantity made was 13,121,894 lb. in 1895, and 19,776,001 lb. in 1900, or an increase of only 47 per cent. During the five years prior to 1900 the production of butter on the South Coast was very low, owing to the dry seasons; but with better conditions in 1900, the output was enormously increased, the yield for the four counties of Camden, Dampier, St. Vincent, and Auckland, being 15,240,384 lb., as compared with an average of about 8,600,000 lb. during 1895-99. Cheese-making is still confined to the south coast, and it is not probable that it will engage serious attention in the north; indeed, the small quantity formerly made there seems to be declining

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in favour of butter, which is a more profitable product. That there is a great future for the dairy industry in the northern districts is apparent from the advances made during the last few years, and it may be said that in a district most suitable for dairying, only the outskirts have so far been touched. The effect of the rapid development of the industry is evidenced by the new life which has been infused into the towns of Lismore, Casino, Coraki, and Maclean, and the city of Grafton. But while dairying must be mainly confined to the coastal regions, the industry will always be actively pursued in the more favoured parts of the non-coastal regions for the purpose of supplying local wants, and already in places remote from the metropolis well-equipped factories have been established. At Forbes, Dubbo, and other inland towns, considerable capital has been expended in plant for refrigerating, cooling-rooms, and pasteurization, and good butter is supplied in the hottest season. That dairying is possible only in heavily-grassed country, with a good rainfall, is an erroneous idea; in lightly-grassed country a good cow simply requires a larger grazing area.

Most of the native grasses of the state are particularly suitable for dairy cattle, as they possess milk-producing as well as fattening qualities. The mildness of the winter season enables dairymen to avoid the heavy expense of stall feeding, and although a certain amount of winter fodder is grown, it is given to the cattle in the fields. The crops most popular for this purpose are maize, barley, oats, rye, lucerne, and the brown variety of sorghum or planter's friend. Ensilage, although very good for dairy cows, is not used so generally as it should be, the latest returns showing that there were only 25 pit and 86 stack silos in the state, making altogether 6,854 tons of ensilage. The area of land devoted to green food and permanent artificially-sown grasses has been largely extended during the last few years, and in March 1901, it amounted to about 422,741 acres. The produce of this land is devoted to the depasturing of dairy cattle, and as the area is still below the present requirements, an extension of this form of cultivation may be anticipated. The number of dairy cows in the state is 420,148, distributed as follows:—

| Coastal Division— | Number. |
|---|---|
| North Coast | 92,502 |
| Lower Hunter | 53,471 |
| County of Cumberland | 22,910 |
| South Coast | 111,690 |
| Total | 280,573 |
| **Table-land Division—** | |
| Northern Table-land | 22,615 |
| Central Table-land | 33,813 |
| Southern Table-land | 35,630 |
| Total | 93,258 |

| Western Slopes and Riverina Division— | Number. |
|---|---|
| North-western Slope | 7,160 |
| Central-Western Slope | 11,682 |
| South-western Slope | 15,770 |
| Riverina | 6,906 |
| Total | 41,518 |
| Western Plains | 4,799 |
| Total, New South Wales | 420,148 |

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Constant attention to the peculiarities of the climate and the wants of the settlers, as well as the judicious crossing of strains, have developed a breed of cows peculiar to Australia, especially in the coast districts immediately south of Sydney; but all well-known breeds of milkers are found in New South Wales. The milk yielded by the dairy cows of the state may be set down at about 149,153,000 gallons, of which the quantity consumed in making butter during the past year was about 114,069,000 gallons, and for cheese 3,559,000 gallons. The estimated quantity used for human consumption other than for butter and cheese-making was 29,795,000 gallons, while the balance, used for feeding pigs, etc., was about 1,730,000 gallons. The weight of the butter made was 41,479,794 lb., and of cheese, 3,559,000 lb. The yield of milk per cow is a very variable quantity; in some of the principal dairy centres as much as 500 gallons is returned as the yearly average, while in other districts the yield falls far short of this. For the whole state the average may be set down at rather more than 5 quarts per day for every cow milked, but the cows are only milking for about nine months of the year, and the average yield per annum is approximately 355 gallons.

The introduction of the factory system in convenient centres, the great improvements effected in dairy appliances, and the establishment of direct railway communication with Sydney, have done much towards developing the industry. Dairy farming is not now, as formerly, wholly confined to farmers, as many graziers in a large way of business, especially in the coastal districts, have lately turned their attention to the industry, and are likely to find it profitable. When the factory system was first introduced the factories were mostly co-operative, and the process of cream separation and butter making were carried on together. This arrangement is gradually dying out, and central butter factories, fed by numerous separating places called "creameries," are taking the place of the others. The advantages to be gained from the change are considerable—a butter of more uniform quality is made in each centre, and there is a reduction in the cost of manufacture, owing to the greater quantity made and the improved appliances, such as refrigerators, which the larger establishments can profitably provide.

As indicating the changes which have recently taken place, it may be noted that during the last ten years the number of factories dealing with dairy produce has increased from 270, employing 887 hands, and using machinery valued at £62,104, to 556 factories with 1,425 employees, and with machinery valued at £255,000.

The quantity of milk required to make a given weight of butter varies considerably according to whether the milk is treated by a separator or in the old fashion. For butter which is termed factory or separator-made, the average quantity of milk used per lb. of butter produced is 2·75 gallons, or 26 lb. 2 oz. For ordinary hand-made butter the quantity required is about 3 gallons, so that there is a saving of about 13 per cent. by the former method, in addition to the extra value of the butter produced, the price in the Sydney markets during 1900 being from ½d. to

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1d. per lb. higher for the factory-made article. The quantity of butter made during each of the last ten years is set down below :—

| Year. | Butter. | | |
|---|---|---|---|
| | Factory. | Farm. | Total. |
| | lb. | lb. | lb. |
| 1891 | 7,661,197 | 10,701,700 | 18,362,897 |
| 1892 | 10,141,066 | 11,257,234 | 21,398,300 |
| 1893 | 15,635,360 | 10,755,484 | 26,390,844 |
| 1894 | 17,567,646 | 9,792,049 | 27,359,695 |
| 1895 | 16,770,189 | 6,525,323 | 23,295,512 |
| 1896 | 18,828,293 | 7,045,984 | 25,874,277 |
| 1897 | 23,713,509 | 5,696,457 | 29,409,966 |
| 1898 | 26,522,467 | 4,961,134 | 31,483,601 |
| 1899 | 28,817,747 | 4,216,134 | 33,033,881 |
| 1900 | 37,056,317 | 4,423,477 | 41,479,794 |

The number of hands employed at dairy farming in 1900 was 27,171 ; of these, 15,015 were males, and 12,156 females. Included in the total are 284 persons employed in certain farm-factories, and omitted from the returns of manufactories and works. The number employed in factories proper, and not included in the foregoing total, was 1,070. The principal factories are situated in the Shoalhaven, Camden, Kiama, Eden, and Richmond River districts. The following table shows the manufacture of butter in districts in 1900 :—

| District. | Butter. |
|---|---|
| | lb. |
| Coastal Division :— | |
| North Coast | 9,926,139 |
| Lower Hunter | 6,897,866 |
| County of Cumberland | 4,035,617 |
| South Coast | 15,240,384 |
| Total | 36,100,006 |
| Table-land Division :— | |
| Northern Table-land | 539,095 |
| Central Table-land | 1,899,162 |
| Southern Table-land | 1,706,051 |
| Total | 4,144,308 |
| Western Slope and Riverina Division :— | |
| North-western Slope | 23,866 |
| Central-western Slope | 316,968 |
| South-western Slope | 729,068 |
| Riverina | 155,614 |
| Total | 1,225,516 |
| Western Plains | 9,964 |
| Total, New South Wales | 41,479,794 |

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Prior to 1890 the state was under the necessity of importing a considerable quantity of butter to meet local requirements, but from that year an export trade was commenced, the surplus increasing from 281,341 lb. in 1890 and 838,296 lb. in the following year to over 1,000,000 lb. in 1892, nearly 3,000,000 lb. in 1893, and over 4,000,000 lb. in 1894, but the unusual severity of the season brought down the production in 1895 to slightly below local requirements. The following year was not too favourable to the dairying industry, but an improvement in production took place resulting in a surplus of 592,962 lb., while the net exports for the year 1897 reached over 3¾ million lb. The net exportation during 1898 was over 7¾ million lb.—more than double the quantity exported the year before, and it will be noticed that the large quantity shipped affected the local consumption considerably. In 1899 the net exportation was considerably lower, but rose again during 1900 to nearly 8½ million lb. The following table shows the production, the net imports or exports, and the total consumption of butter in New South Wales for each of the last ten years :—

| Year. | Production of Butter. | Net Imports. | Net Exports. | Consumption of Butter. |
|---|---|---|---|---|
| | lb. | lb. | lb. | lb. |
| 1891 | 18,362,897 | ..... | 838,296 | 17,524,601 |
| 1892 | 21,398,300 | ..... | 1,027,809 | 20,370,491 |
| 1893 | 26,390,844 | ..... | 2,705,369 | 23,685,475 |
| 1894 | 27,359,695 | ..... | 4,177,690 | 23,182,005 |
| 1895 | 23,295,512 | 51,611 | ..... | 23,347,123 |
| 1896 | 25,874,277 | ..... | 592,962 | 25,281,315 |
| 1897 | 29,409,966 | ..... | 3,771,474 | 25,638,492 |
| 1898 | 31,483,601 | ..... | 7,759,421 | 23,724,180 |
| 1899 | 33,033,881 | ..... ... | 4,549,722 | 28,484,159 |
| 1900 | 41,479,794 | ..... | 8,487,534 | 32,992,260 |

The remarkable increase in the export trade, when the adverse seasons are remembered, is a satisfactory indication that the dairymen of the state have begun to realise the enormous market for their produce which is presented by the teeming populations of the United Kingdom.

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It is only during the last nine years that Australian butter has seriously influenced the London market, for although small consignments had been sent previously to London, the huge import into that city from Denmark and Sweden practically controlled the price of the Australian article. The position is now, however, changed, nearly one-third of all the butter imported into London during the winter months being of Australian origin, and on many occasions Australian creamery butter has commanded a higher value than Danish. The prices obtained during the last four years for Australian butter in the London market were very satisfactory, especially in comparison with the phenomenally low prices ruling during 1895. Great progress has been made of recent years in the preparation of a good article for export, and many large refrigerating plants have been erected for that purpose in the most suitable localities. The prices per cwt. for New South Wales butter in London during the last five years were as shown below :—

| Month. | 1896. | | 1897. | | 1898. | | 1899. | | 1900 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Highest. | Lowest. | Highest. | Lowest. | Highest. | Lowest. | Highest. | Lowest. | Highest. | Lowest. |
| | s. | s. | s. | s. | s. | s. | s. | s. | s. | s. |
| January ... | * | * | 106 | 100 | 103 | 90 | 104 | 90 | 106 | 90 |
| February .. | * | * | 102 | 94 | 104 | 90 | 104 | 84 | 100 | 92 |
| March ..... | * | * | 96 | 85 | 104 | 94 | 98 | 84 | 100 | 86 |
| April..... | * | * | 92 | 80 | 100 | 94 | 100 | 90 | 94 | 86 |
| May..... | * | * | * | * | * | * | 92 | 84 | 98 | 85 |
| June..... | * | * | * | * | * | * | * | * | * | * |
| July..... | * | * | * | * | * | * | * | * | * | * |
| August..... | * | * | * | * | * | * | 108 | 103 | * | * |
| September. | * | * | 104 | 100 | * | * | 112 | 106 | * | * |
| October .... | 106 | 100 | 100 | 93 | 108 | 104 | 120 | 99 | 112 | 95 |
| November . | 102 | 98 | 104 | 84 | 108 | 92 | 108 | 92 | 112 | 96 |
| December.. | 100 | 94 | 106 | 82 | 116 | 96 | 106 | 92 | 112 | 100 |

* No quotations.

The experience of the trade so far has shown that butter should be made expressly for export, and of the best possible quality and texture, salted and coloured to suit the taste of the particular market for which

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it is intended. Were greater uniformity in the characteristics of the produce secured, London purchasers would be enabled to "buy to arrive," which would place New South Wales butter on a much better footing in the market. These results can only be attained by paying the greatest attention to cleanliness in all the processes of manufacture, taking care in the reduction of the temperature of the cream before it is sent by rail or road to the factory, and making a more judicious selection of cows. The most suitable form of box, the method of packing, and the quality of the parchment paper used, are all matters of importance if the trade is to succeed, and must receive the attention of the classes interested, as must also the question of winter feeding, so as to secure a continuous supply all the year round. Buyers naturally give preference to sources from which they can receive a constant supply, and periodic shipments have practically each year to oust afresh competing butters before they can gain a footing. Another matter requiring consideration is the advisability of direct shipments from the factories to specially appointed agents in London or other centres. A serious fault, too, in a great deal of the butter hitherto shipped, has been the presence of too much foreign moisture, which, freezing more readily than the fatty substances of the butter, spoils the texture, and causes the article to become crumbly. Satisfactory advances in these respects have been made in the course of the last four years, but there is still room for improvement.

A drawback to the trade is the difficulty in securing ocean freights during the export season. The mail steamers do not provide accommodation for butter after the middle of February, when the Tasmanian fruit season begins, consequently the produce is shipped by slower and less regular vessels, and until provision is made by the mail steamers for the trade the industry will suffer. In this respect, the state of Victoria does not share the same disadvantages; for, while in New South Wales the production of butter reaches its height in February and March, by that time it has fallen in Victoria to somewhere near local requirements. The heaviest output from Victoria is in the spring, that of New South Wales in the late summer; Victoria thus gets her heavy supplies on an earlier and better market. Added to this, the railways of New South Wales do not traverse the dairying districts as do the lines of Victoria, and the climatic disabilities of the mother state are greater.

At one time, Holland, Ireland, France, and Jersey, were the main sources of British supply, and even now these countries contribute largely to the imports into England and Scotland. When the market was dependent on these countries butter in England ranged from 1s. 6d. to 1s. 8d. and 2s. per lb. Then Denmark appeared in the market, and Scandinavia followed; next Canada, the United States, Australia, Argentine, and recently Finland and Russia. During the last ten years the imports of butter into Great Britain have doubled, and at the present time are valued at about £17,450,000.

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The local butter market was marked by no exceptional features during the year 1900. The average prices ruling in Sydney were :—

| Month. | Price, per lb. | | Month. | Price, per lb. | |
|---|---|---|---|---|---|
| | Creamery. | Factory. | | Creamery. | Factory. |
| | s. d. | s. d. | | s. d. | s. d. |
| January | 0 9 | 0 8½ | July | 0 11½ | 0 11 |
| February | 0 8½ | 0 7¾ | August | 0 10½ | 0 10 |
| March | 0 8¾ | 0 8 | September | 0 9½ | 0 9 |
| April | 0 9¾ | 0 8½ | October | 0 9 | 0 8½ |
| May | 0 10 | 0 9¼ | November | 0 9 | 0 8½ |
| June | 0 11 | 0 10½ | December | 0 9 | 0 8½ |

The manufacture of cheese hitherto has not been so successful as that of butter, although it has been abundantly proved that when sufficient care is exercised in making and shipping, New South Wales cheese can find a ready sale in London at remunerative prices. The quantity manufactured for each of the last ten years is given below :—

| Year. | Cheese. | | |
|---|---|---|---|
| | Factory. | Farm. | Total. |
| | lb. | lb. | lb. |
| 1891 | 3,722,264 | 1,783,807 | 5,506,071 |
| 1892 | 1,803,674 | 3,214,622 | 5,018,296 |
| 1893 | 1,614,383 | 3,078,721 | 4,693,104 |
| 1894 | 1,656,703 | 3,163,709 | 4,820,412 |
| 1895 | 1,670,255 | 1,268,530 | 2,938,785 |
| 1896 | 1,887,106 | 2,132,738 | 4,019,844 |
| 1897 | 2,221,377 | 1,715,791 | 3,937,168 |
| 1898 | 2,220,445 | 1,024,867 | 3,245,312 |
| 1899 | 1,376,895 | 1,009,092 | 2,385,987 |
| 1900 | 2,322,663 | 1,236,160 | 3,558,823 |

The price of cheese in the Sydney market during 1900 was as follows :—

| Month. | Large, per lb. | Loaf, per lb. | Month. | Large, per lb. | Loaf, per lb. |
|---|---|---|---|---|---|
| | d. | d. | | d. | d. |
| January | 4½ | 4½ | July | 5½ | 5⅕ |
| February | 4⅝ | 5⅛ | August | 5 | 5⅛ |
| March | 5⅛ | 5⅝ | September | 4⅝ | 5⅛ |
| April | 5⅛ | 6 | October | 4⅝ | 5⅛ |
| May | 5⅛ | 6 | November | 4⅛ | 5 |
| June | 5⅛ | 6 | December | 4⅞ | 4½ |

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The following table shows the manufacture of cheese in districts :—

| District. | Cheese. |
|---|---|
| | lb. |
| Coastal Division :— | |
| North Coast | 8,410 |
| Lower Hunter | 1,670 |
| County Cumberland | 7,854 |
| South Coast | 3,356,166 |
| Total | 3,374,100 |
| Table-land Division :— | |
| Northern Table-land | 34,071 |
| Central Table-land | 100,278 |
| Southern Table-land | 44,360 |
| Total | 178,709 |
| Western Slopes and Riverina Division :— | |
| North-Western Slope | 2,180 |
| Central-Western Slope | 52 |
| South-Western Slope | 1,590 |
| Riverina | 1,492 |
| Total | 5,314 |
| Western Plains | 700 |
| Total, New South Wales | 3,558,823 |

It is not probable that the manufacture of cheese will command the same attention in this country which has latterly marked the butter industry. During two years of the last decennial period, the state exported a small quantity of cheese, viz., 32,000 lb. in 1893, and 162,000 lb. in 1894 ; but taking the period as a whole, the average annual production has been 4,012,000 lb., and the average annual consumption 4,696,000 lb., leaving, therefore, a deficiency to be imported of 684,000 lb. Evidently, it has paid better to make butter than cheese. As a matter of fact, in comparison with Canada and Europe, New South Wales is decidedly at a disadvantage in regard to freight, distance from the market, and climatic suitability. Cheese matures quickly and, unlike butter, cannot be frozen ; and it decreases in value unless sold just at the right time. These drawbacks do not apply so much in the case of Canada, where shippers are near enough to the market to be able to regulate the supplies. And when it is remembered that 1 lb. of butter has the same money value as 2½ lb. of cheese, while the cost of freight is equal, it is not surprising that even where cheese can be produced in New South Wales under excellent conditions, its manufacture is not being extended.

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The following table shows, for each year of the last decennial period, the local production, the net import or export, and the total consumption of cheese :—

| Year. | Production of Cheese. | Net Import. | Net Export. | Consumption of Cheese. |
|---|---|---|---|---|
| | lb. | lb. | lb. | lb. |
| 1891 | 5,506,071 | 150,463 | ..... | 5,656,534 |
| 1892 | 5,018,296 | 53,700 | ..... | 5,071,996 |
| 1893 | 4,693,104 | ..... ..... | 31,979 | 4,661,125 |
| 1894 | 4,820,412 | ..... | 162,442 | 4,657,970 |
| 1895 | 2,938,785 | 64,790 | ..... | 3,003,575 |
| 1896 | 4,019,844 | 949,706 | ..... | 4,969,550 |
| 1897 | 3,937,168 | 187,339 | ..... | 4,124,507 |
| 1898 | 3,245,312 | 1,670,525 | ..... | 4,915,837 |
| 1899 | 2,385,987 | 2,454,260 | ..... | 4,840,247 |
| 1900 | 3,558,823 | 1,503,526 | ..... ..... | 5,062,349 |

It is probable that other milk products will shortly receive more attention at the hands of farmers. Already some attention has been given to the manufacture of condensed milk, while a similar product, known as "concentrated milk," is also being turned out at Coolangatta, on the Hay Estate, and by another factory at Belford, near Singleton. This article will keep for months in cool chambers, and is largely used on the Peninsular and Oriental Company's steamers. Being without sugar, it has all the richness and flavour of fresh milk, and in this respect is more useful than condensed milk, which is not palatable to many people. Since the commencement of the industry the export of concentrated milk has advanced from 2,848 lb. in 1895 to 13,494 lb. in 1898, and 86,897 lb. in 1900. Of the total export in 1900, 39,775 lb. were forwarded to South Africa, and 35,788 lb. to the Philippine Islands. Up to the present time no great strides have been made with the manufacture of condensed milk. The export commenced in 1897, and during that year and the year succeeding a fair quantity was sent to Queensland, West Australia, and Victoria, but the trade declined in 1899 and 1900. In 1897 the total exports amounted to 11,928 lb., in 1898 to 15,840 lb., in 1899 to 1,484 lb., and in 1900 to 1,680 lb. To what extent business might be done within the state is apparent from the fact that the net imports of condensed milk for the five years ended 1900 average annually 3,453,800 lb., of the value of £68,400. Apart from the requirements of the state, there is no apparent reason why New South Wales condensed milk should not compete with the Swiss product in the London market. The quantity of condensed milk imported into Great Britain in 1900 was 987,003 cwt., representing a value of £1,743,675.

The value of the produce of the dairy industry to the state, excluding that of swine-breeding, is estimated at £2,878,000 for the year 1900. The value of milk not made into butter, but used for human consumption, was £1,242,000 ; of butter, £1,555,000 ; and of cheese, £67,000 ;

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while the balance of the milk, used mostly in feeding pigs, was worth approximately £14,000. The dairy cattle of the state were valued at £3,046,000.

### Swine.

The breeding of swine, which is usually carried on in conjunction with dairy-farming, has been very much neglected in New South Wales, and in 1900 the number of stock was 51,628 less than that recorded in 1880, and 16,782 less than in 1894. The present number is, however, the largest of the last six years, being 32,980 in excess of that of 1895. Considering the importance which the industry has attained in other countries, it is a matter of surprise that more attention has not been paid to it in this state, where the conditions of farming in many parts, more especially in the coast districts, offer great facilities for the raising of this class of stock. The following table shows the number of swine in New South Wales for 1860 and subsequent periods :—

| Year. | Swine. | Year. | Swine. |
|---|---|---|---|
| | No. | | No. |
| 1860 | 180,662 | 1889 | 238,585 |
| 1865 | 146,901 | 1890 | 283,061 |
| 1870 | 243,066 | 1891 | 253,189 |
| 1875 | 199,950 | 1892 | 249,522 |
| 1880 | 308,205 | 1893 | 240,860 |
| 1881 | 213,916 | 1894 | 273,359 |
| 1882 | 154,815 | 1895 | 223,597 |
| 1883 | 189,050 | 1896 | 214,581 |
| 1884 | 211,656 | 1897 | 207,738 |
| 1885 | 208,697 | 1898 | 247,061 |
| 1886 | 209,576 | 1899 | 239,973 |
| 1887 | 264,111 | 1900 | 256,577 |
| 1888 | 248,583 | | |

The production of swine is a large factor in dairy-farming, but the increase in the number of stock has not kept pace with the increase in the quantity of milk available for food. Although at the various farms, factories, and creameries many more pigs could be fattened, the large quantity of bacon and hams imported annually shows that the local demand for swine of a good class or breed is far in advance of the supply. The breeds generally met with in the state are the improved Berkshire, Poland, China, Yorkshire, and Prince Albert, and probably the Tamworth and Sussex might be advantageously introduced. The crosses from these breeds are numerous, but unfortunately in the majority of cases the animals have deteriorated very considerably from want of care and selection in the breeding, and dairymen find it difficult to obtain a good class of store pig. A farmer who sells his milk to a creamery can purchase separated milk at from 2d. to 3d. for 10 gallons, a price which renders it a most profitable pig feed, provided that other crops, such as maize, rye, peas, mangolds, or pumpkins, are grown to supplement the

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milk diet. At present there are few factories devoted entirely to the curing of bacon and hams, and the pigs are usually sold when fat as porkers at from 60 lb. to 90 lb. weight, the majority being sent to the Sydney market alive. The price ruling for good porkers during 1900 ranged from 23s. to 27s. 6d. Owing to neglect to grow root crops for winter feed for pigs, when milk is scarce, the demand for store pigs at the commencement of the summer is very great, while there is usually a corresponding glut of fat pigs at low prices as winter approaches.

The number of swine slaughtered during 1900 was 227,379, of which 67,812 were killed at the Metropolitan abattoirs; and the quantity of bacon and hams made was 10,863,125 lb., chiefly in the County Cumberland, which contributed 3,615,200 lb., the North Coast, which produced 2,430,781 lb., and the South Coast 2,139,756 lb. It is possible, however, that a large number of swine are slaughtered for bacon-curing, concerning which returns are not collected. The following is a statement of the quantity of bacon and ham made in the various districts :—

| District. | Bacon and Hams. |
|---|---|
| | lb. |
| **Coastal Division—** | |
| North Coast | 2,430,781 |
| Lower Hunter | 418,455 |
| County Cumberland | 3,615,200 |
| South Coast | 2,139,756 |
| Total | 8,604,192 |
| **Table-land Division—** | |
| Northern Table-land | 430,038 |
| Central Table-land | 566,081 |
| Southern Table-land | 586,196 |
| Total | 1,582,315 |
| **Western Slopes and Riverina Division—** | |
| North-Western Slope | 18,764 |
| Central-Western Slope | 279,382 |
| South-Western Slope | 246,123 |
| Riverina | 126,419 |
| Total | 670,688 |
| Western Plains | 5,930 |
| Total, New South Wales | 10,863,125 |



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There is no reason why the production of bacon and hams should not be very largely increased. More bacon factories fitted with refrigerating machinery are wanted, so that curing may be continued during the summer months. In these central establishments, moreover, greater care could be exercised both in securing uniformity in the quality of the article and in cutting. This last is an important matter, as there is as much as 1d. to 2d. per lb. difference between a well-cut and a badly-cut ham. For export the animals should be grown larger, as English bacon pigs run to 300 or 400 lb. weight each. The quantity of bacon and hams cured on farms and in factories during the ten years 1891 to 1900 is shown below :—

| Year. | Bacon and Hams. | | |
|---|---|---|---|
| | Factory. | Farm. | Total. |
| | lb. | lb. | lb. |
| 1891 | 2,120,269 | 3,889,331 | 6,009,600 |
| 1892 | 1,803,824 | 3,303,253 | 5,107,077 |
| 1893 | 3,704,996 | 4,055,392 | 7,760,388 |
| 1894 | 2,417,373 | 4,375,530 | 6,792,903 |
| 1895 | 2,522,695 | 2,728,022 | 5,250,717 |
| 1896 | 2,902,987 | 2,400,776 | 5,303,763 |
| 1897 | 4,458,063 | 2,086,718 | 6,544,781 |
| 1898 | 4,836,899 | 2,347,159 | 7,184,058 |
| 1899 | 4,452,112 | 2,379,831 | 6,831,943 |
| 1900 | 7,963,670 | 2,899,455 | 10,863,125 |

It would naturally be expected that with the progress of the dairying industry increased attention would be devoted to the breeding of swine. In Denmark the export of pigs seventeen years ago was only a few hundreds per week ; at present the trade is about 60,000, while the country is the largest exporter to Great Britain, and has captured one-third of the Irish trade. But, as will have been seen from the previous tables, in New South Wales during the four years 1894–97 the number of swine decreased from 273,000 to 208,000 ; the number annually slaughtered fell from 190,000 to 148,000, and the quantity of bacon and hams cured, from 6,793,000 lb. to 6,545,000 lb. Up to the year 1897, a fear of bringing down the high prices offered for porkers by the metropolitan butchers seems to have checked any disposition to place a greater number on the market ; but as dairying advances the

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farmers are realising that they too must make the most of their by-products, and a large trade in swine is inevitable. As shown in a preceding table the number of pigs increased during 1898, by over 40,000; in 1899 there was a decrease of over 7,000, but during 1900 the increase was 16,604.

The following table shows the production of bacon and hams, the net imports or net exports, and the total consumption for each of the last ten years. The increased production during the year 1898 for the first time placed the state in a position to export, but during 1899 there was again a small import, and notwithstanding the great increase in the production of bacon and hams during the year 1900 there was a net import of over 1,030,000 lb. The increased consumption of bacon was probably due to the scarcity of fat sheep and cattle :—

| Year. | Production of Bacon and Hams. | Net Import. | Net Export. | Total Consumption. |
|---|---|---|---|---|
| | lb. | lb. | lb. | lb. |
| 1891 | 6,009,600 | 1,143,922 | ..... | 7,153,522 |
| 1892 | 5,107,077 | 749,416 | ..... | 5,856,493 |
| 1893 | 7,760,388 | 452,768 | ..... | 8,213,156 |
| 1894 | 6,792,903 | 434,722 | ..... | 7,227,625 |
| 1895 | 5,250,717 | 17,388 | ..... | 5,668,105 |
| 1896 | 5,303,763 | 816,165 | ..... | 6,119,928 |
| 1897 | 6,544,781 | 578,877 | ..... | 7,123,658 |
| 1898 | 7,184,058 | ..... | 220,536 | 6,963,522 |
| 1899 | 6,831,943 | 291,145 | ..... | 7,123,088 |
| 1900 | 10,863,125 | 1,030,889 | ..... | 11,894,014 |

The number of swine in each state at the close of 1900 was as follows :—

| State. | Swine. |
|---|---|
| New South Wales | 256,577 |
| Victoria | 337,588 |
| Queensland | 122,187 |
| South Australia | 91,184 |
| Western Australia | 61,696 |
| Tasmania | 68,291 |
| Commonwealth | 937,523 |
| New Zealand | 250,975 |
| Australasia | 1,188,498 |

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It will thus be seen that Victoria has a larger number than any other state, its total being 337,588, or 28·4 per cent. of the whole herds; New South Wales ranks second with 256,577, or 21·6 per cent.; and New Zealand third with 250,975, or 21·1 per cent. Queensland raises 10·3 per cent., South Australia 7·7 per cent., Tasmania 5·7 per cent., and Western Australia 5·2 per cent.

## Slaughtering.

Slaughtering for food is permitted only in places licensed for the purpose, but such establishments are very numerous. In the metropolitan district there are 64, and in the country districts 1,706 slaughter-yards, employing respectively 447 and 4,406 men; in all, 1,770 establishments, and 4,853 men.

The consumption of meat cannot be given accurately for the metropolitan and country districts separately, as several of the largest country slaughter-yards are carried on for the purpose of supplying the metropolitan market. For New South Wales generally it is estimated that the average annual consumption of mutton per inhabitant is 96·7 lb., of beef 177·5 lb., and of pork and bacon 13·5 lb., making a total consumption of 287·7 lb.

The following table shows the number of stock slaughtered during 1900 :—

| Stock. | Number slaughtered in 1900. | | |
|---|---|---|---|
| | Metropolitan. | Country. | Total. |
| Sheep | 1,074,901 | 3,122,125 | 4,197,026 |
| Lambs | 41,232 | 121,255 | 162,487 |
| Bullocks | 69,953 | 169,085 | 239,038 |
| Cows | 26,701 | 112,412 | 139,113 |
| Calves | 13,866 | 7,975 | 21,841 |
| Swine | 95,372 | 132,007 | 227,379 |

These figures represent the stock slaughtered for all purposes. Of the sheep and lambs, 2,805,332, including 1,019,406 killed on stations and farms, represent the local consumption; 589,944 sheep were required by meat-preserving establishments; 951,891 for freezing for export; while 12,346 were boiled down for tallow. All the cattle killed, except 15,042 treated in the meat-preserving works and 21,737 exported frozen, were required for local consumption; and of the swine, 116,457 were cured as bacon, and 110,922 killed for ordinary consumption.

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The following table shows the slaughter of stock in the various establishments for ten years :—

| Year. | Establishments. | Hands Employed. | Sheep. | Lambs. | Cattle. | | | Swine. |
|---|---|---|---|---|---|---|---|---|
| | | | | | Bullocks. | Cows. | Calves. | |
| 1891 | 1,617 | 4,154 | 2,404,953 | 127,709 | 210,731 | 66,391 | 25,813 | 178,355 |
| 1892 | 1,870 | 4,860 | 3,371,454 | 84,728 | 188,518 | 123,058 | 27,022 | 184,065 |
| 1893 | 2,105 | 5,785 | 7,883,650 | 150,458 | 230,388 | 78,661 | 23,907 | 188,985 |
| 1894 | 2,146 | 5,718 | 8,008,408 | 154,470 | 238,349 | 83,974 | 23,979 | 190,277 |
| 1895 | 1,864 | 6,297 | 8,256,079 | 106,924 | 276,998 | 87,481 | 23,618 | 178,588 |
| 1896 | 1,905 | 5,959 | 6,077,420 | 119,329 | 232,875 | 98,910 | 19,461 | 149,971 |
| 1897 | 1,869 | 5,563 | 5,670,846 | 119,258 | 244,085 | 100,302 | 21,511 | 148,047 |
| 1898 | 1,820 | 5,391 | 5,499,049 | 166,714 | 222,220 | 119,229 | 22,593 | 157,492 |
| 1899 | 1,798 | 5,158 | 4,003,225 | 193,304 | 244,184 | 114,753 | 25,011 | 202,603 |
| 1900 | 1,770 | 4,853 | 4,197,026 | 162,487 | 239,038 | 139,113 | 21,841 | 227,379 |

The value of stock slaughtered can be determined with exactness only for the metropolitan market.

All kinds of stock realized good prices at the Homebush sales during the year 1900. In sheep values there was not the wide range which in the previous season accompanied the advance in wool, but the high prices reached in 1899 were maintained fairly well, mainly as a consequence of the animated state of the export trade. In February, sheep sent to market commence to have an appreciable wool value, which rapidly increases from May to September. Though shearing has commenced in August it is not until the middle of October that shorn sheep appear at the sales, increasing largely during November, while in December very few except shorn sheep are on the market. Towards the end of January a short fleece is again showing. The following table shows the average prices for each class of sheep during the year 1900 :—

| Month. | Cross-bred Wethers. | | | Merino Wethers. | | |
|---|---|---|---|---|---|---|
| | Prime. | Good. | Medium. | Prime. | Good. | Medium. |
| | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. |
| January* | 12 0 | 10 0 | 9 0 | 12 6 | 10 6 | 9 0 |
| February† | 13 0 | 10 0 | 9 0 | 13 0 | 11 0 | 9 0 |
| March† | 13 6 | 11 6 | 10 0 | 13 6 | 11 6 | 10 0 |
| April† | 15 0 | 12 0 | 10 0 | 14 6 | 12 0 | 10 0 |
| May‡ | 15 6 | 13 0 | 11 0 | 16 0 | 13 6 | 10 6 |
| June‡ | 16 0 | 14 0 | 12 0 | 16 6 | 14 6 | 12 6 |
| July‡ | 17 0 | 15 0 | 12 6 | 16 6 | 14 6 | 12 0 |
| August‡ | 16 6 | 14 0 | 12 0 | 16 0 | 13 8 | 11 0 |
| September‡ | 16 0 | 14 0 | 12 0 | 15 0 | 13 0 | 10 6 |
| October * | 12 6 | 10 0 | ..... | 10 0 | 9 0 | 8 0 |
| October † | 15 0 | 14 0 | 11 6 | 15 6 | 13 6 | 11 0 |
| November * | 12 0 | 10 6 | 8 8 | 10 3 | 9 6 | 7 6 |
| November † | 14 6 | 13 4 | 11 3 | 15 0 | 13 1 | 11 0 |
| December* | 12 6 | 10 6 | 8 6 | 11 6 | 11 0 | 8 0 |

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| Month. | Cross-bred Ewes. | | | Merino Ewes. | | |
|---|---|---|---|---|---|---|
| | Prime. | Good. | Medium. | Prime. | Good. | Medium. |
| | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. |
| January* | 11 6 | 10 0 | 9 0 | 10 0 | 9 0 | 8 0 |
| February† | 12 0 | 10 6 | 9 0 | 10 0 | 9 0 | 8 0 |
| March† | 12 6 | 11 6 | 10 0 | 11 0 | 10 0 | 9 0 |
| April† | 13 6 | 12 0 | 10 0 | 12 0 | 11 0 | 9 0 |
| May‡ | 15 0 | 12 6 | 10 6 | 12 6 | 11 6 | 10 0 |
| June‡ | 16 0 | 14 6 | 12 6 | 13 0 | 12 0 | 11 0 |
| July‡ | 15 6 | 14 4 | 12 0 | 14 0 | 13 0 | 11 0 |
| August‡ | 16 0 | 14 0 | 11 6 | 13 0 | 11 6 | 9 6 |
| September‡ | 14 0 | 11 6 | 10 6 | 14 0 | 11 6 | 10 0 |
| October * | 9 0 | ..... | ..... | 9 0 | 8 0 | 6 6 |
| October ‡ | 14 0 | 12 0 | 11 0 | 13 0 | 11 6 | 10 0 |
| November * | 10 0 | 9 0 | ..... | 9 6 | 9 0 | 6 6 |
| November ‡ | 14 0 | 11 6 | ..... | 13 0 | 11 6 | 11 0 |
| December* | 10 6 | 9 6 | 8 6 | 10 0 | 8 6 | 7 0 |

* Shorn. † Growing fleece. ‡ Woolly.

The average prices for lambs were as follows :—

| Month. | Lambs. | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Prime Woolly. | Good Woolly. | Medium Woolly. | Month. | Prime Woolly. | Good Woolly. | Medium Woolly. |
| | s. d. | s. d. | s. d. | | s. d. | s. d. | s. d. |
| January | 11 6 | 10 0 | 7 6 | July | 14 0 | 12 0 | 9 0 |
| February | 10 6 | 9 0 | 5 6 | August | 13 0 | 11 0 | 8 0 |
| March | 11 6 | 10 0 | 7 0 | September | 12 0 | 10 6 | 7 6 |
| April | 13 0 | 10 6 | 8 0 | October | 11 6 | 10 0 | 6 0 |
| May | 12 6 | 10 0 | 8 0 | November | 10 0 | 8 0 | 6 0 |
| June | 13 6 | 12 0 | 8 6 | December | 10 0 | 8 6 | 7 0 |

The average prices obtained in 1900 for the different grades of fat cattle, distinguishing bullocks from cows, are given hereunder. The

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effect of the increased export business, already referred to in connection with sheep, is even more marked in the case of cattle, especially with the higher grades :—

| Month. | Bullocks. | | | | Cows. | | | |
|---|---|---|---|---|---|---|---|---|
| | Extra Prime. | Best Yard. | Good Trade Beef. | Medium. | Extra Prime. | Best Yard. | Good Trade Beef. | Medium |
| | £ s. | £ s. | £ s. | £ s. | £ s. | £ s. | £ s. | £ s. |
| January | 9 3 | 8 10 | 7 6 | 5 7 | 7 5 | 5 18 | 5 4 | 3 7 |
| February | 9 11 | 8 15 | 7 8 | 5 2 | 6 11 | 5 18 | 5 3 | 3 2 |
| March | 10 11 | 9 4 | 7 17 | 5 0 | 7 5 | 6 14 | 5 8 | 3 3 |
| April | 10 7 | 9 2 | 7 6 | 4 17 | 6 18 | 6 2 | 4 16 | 2 19 |
| May | 9 16 | 8 14 | 7 12 | 5 3 | 6 17 | 6 2 | 5 1 | 2 17 |
| June | 12 0 | 12 16 | 7 15 | 5 7 | 8 3 | 6 11 | 5 5 | 3 3 |
| July | 12 1 | 10 5 | 8 6 | 5 10 | 7 7 | 7 2 | 5 12 | 3 11 |
| August | 12 19 | 11 6 | 9 3 | 6 10 | 8 17 | 7 10 | 6 9 | 4 7 |
| September | 12 15 | 10 5 | 8 17 | 5 4 | 9 5 | 7 5 | 6 1 | 4 0 |
| October | 13 5 | 11 4 | 8 10 | 5 16 | 8 13 | 7 18 | 6 0 | 4 4 |
| November | 12 6 | 11 14 | 8 18 | 6 5 | 8 10 | 8 5 | 6 8 | 4 11 |
| December | 11 19 | 10 0 | 8 5 | 5 11 | 8 3 | 7 7 | 5 14 | 3 18 |

At the Abattoirs during 1900 mutton sold at an average of 1⅞d. per lb.; the full skin was worth 6s., the shorn skin 2s., the fat 2d. per lb., and the head ¾d. Tongues realized 2½d. each. Beef brought 2½d. per lb.; the head and feet were worth 1s. 9d. per set; the fat, 1⅝d. per lb.; a bullock hide, 18s.; a cow hide, 13s. 6d.; and offal, 3s. per head. Veal averaged 2¼d. per lb., the skin being worth 6s. Good lambs brought 6s. 6d. each, and pork sold for 4½d. per lb.

## Surplus Stock.

If the pasture resources of New South Wales expanded in a ratio at all approaching that of the increase of live stock, the inability of the state to dispose of its surplus would not be a matter of material concern, for though all classes of sheep decrease in value after a certain age, the value of their wool, except in special and exceptional circumstances, is more than equal to the value of the grass they would consume. It unfortunately happens, however, that under the present conditions of pasturage the number of sheep in the state is, in a favourable season, too great to be properly maintained, so that the disposal of the surplus is an important question.

By "cast" is meant the number at such age when it would be more profitable to send them for slaughter than to keep them, in the case of ewes for breeding, or for further growth in the case of non-breeders. The cast, expressed as a percentage of the whole of the sheep depastured, is a variable quantity, which, however, may be taken as ranging from 13 to 14½ per cent., so that for the year 1900 the cast was about 5,070,000, viz., about 2,282,000 ewes and 2,788,000 wethers. Against

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this there was a local consumption of 2,805,000, and about 755,000 were required for the markets of the neighbouring states. This gives a total consumption of 3,560,000, leaving a surplus of 1,510,000.

There are in the state works for preserving mutton whose output for the year 1900 amounted to about 590,000 sheep, while the frozen-meat trade required some 952,000 more. During 1900, 12,000 sheep were boiled down for tallow, so that not only the whole of the surplus sheep of the state were disposed of, but by reason of the heavy losses through drought an inroad was made on the flocks remaining to the extent of 44,000. As regards cattle, the annual cast for 1900 was about 236,000 head, while the consumption amounted to 400,000, showing a deficiency of 164,000. From Queensland there were imported during the year about 63,000 head in excess of the export. For the past five years there has been a net import of cattle to the extent of about 127,000 a year, so it may safely be assumed that New South Wales if left to her own resources would not be able to maintain an export trade. It is well-known that there is a large part of the state well adapted for carrying cattle, and if the over-sea trade became profitable there is no doubt that much of the country over which sheep are now grazed would be devoted to cattle, the necessary stores being obtained from Queensland.

The question of the live stock trade with Europe is so important to Australia that an account of the results attained so far was given at some length in a previous edition of this book. The efforts to establish an export trade in live cattle with the United Kingdom have, however, been practically abandoned, the mortality being sufficiently high to discourage those under whose auspices the experimental shipments were made. In 1894 there was an export of 108 live cattle to the United Kingdom; in 1895, 1,857 head were shipped to the United Kingdom, and 123 to France; but for the last five years no trade has been transacted. Most of the difficulties met with arose from the wildness of the cattle, nearly all of which were drawn from the bush, trucked long distances to the port of shipment without sufficient nourishment, unskilfully hoisted on board in a starved and fevered condition, consigned to unsatisfactory quarters, and submitted to close confinement and cultivated food for the first time. In addition to this, owing to a succession of dry seasons, the stock exported was of an inferior grade. The disadvantages under which the pioneer shipments laboured are not, of course, of such a kind as to prove insurmountable, and it would doubtless be possible to produce a breed of cattle eminently suitable for the European market. Nevertheless there would always be keen competition to be faced from countries nearer than Australia to the coveted markets, while there would be the additional risk of landing the animals at a time when prices were below a payable figure. During the last few years the Argentine Republic has made great strides in the live cattle and sheep trade, and is already one of Great Britain's chief sources of supply. The

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number of live sheep imported into Great Britain from that country during 1899 was 382,080, and of cattle 85,359. There was, however, a large decrease in the year 1900, when the live sheep imported fell to 179,000, and cattle to 38,560.

## The Meat Export Trade.

The table given below shows the growth of the export trade in New South Wales meat from the introduction of the system of shipping mutton in a frozen state in 1881. Beef, mutton, and pork are all included in the figures. The weight of the preserved meat exported prior to 1887 cannot be given, as it was not recorded; and in connection with the figures for the last few years, it may be said that during 1895 the shipments of frozen meat comprised 1,021,006 carcases of mutton and 88,719 quarters of beef; during 1896, 1,372,373 carcases of mutton and 16,286 quarters of beef; during 1897, 1,065,990 carcases of mutton and 28,529 quarters of beef; during 1898, 1,095,560 carcases of mutton and 39,593 quarters of beef; during 1899, 956,222 carcases of mutton and 32,855 quarters of beef; and during 1900, 951,891 carcases of mutton and 86,948 quarters of beef:—

| Year. | Frozen. | | Preserved. | | Other. | | Total Value. |
|---|---|---|---|---|---|---|---|
| | Quantity. | Value. | Quantity. | Value. | Quantity. | Value. | |
| | cwt. | £ | lb. | £ | lb. | £ | £ |
| 1881 | 9,980 | 8,554 | ..... | * 176,721 | 1,152,348 | 15,321 | 200,596 |
| 1882 | 13,782 | 22,910 | ..... | * 143,601 | 622,263 | 9,087 | 175,598 |
| 1883 | 34,911 | 43,100 | ..... | * 221,912 | 734,274 | 9,870 | 274,882 |
| 1884 | 13,309 | 12,321 | ..... | * 161,477 | 621,007 | 8,948 | 182,746 |
| 1885 | 6,271 | 6,064 | ..... | * 166,561 | 458,886 | 6,682 | 179,307 |
| 1886 | 4,852 | 4,671 | ..... | * 77,756 | 263,637 | 3,112 | 85,539 |
| 1887 | 21,831 | 19,310 | 9,761,154 | 150,714 | 919,750 | 24,752 | 194,776 |
| 1888 | 52,262 | 44,537 | 4,528,269 | 69,481 | 809,507 | 16,028 | 130,046 |
| 1889 | 37,868 | 33,426 | 2,877,303 | 52,321 | 743,685 | 12,984 | 98,731 |
| 1890 | 72,304 | 71,534 | 4,655,523 | 74,329 | 638,137 | 13,477 | 159,340 |
| 1891 | 105,013 | 101,828 | 6,581,713 | 87,632 | 443,902 | 9,596 | 199,056 |
| 1892 | 223,074 | 169,425 | 8,620,747 | 105,922 | 786,057 | 8,342 | 283,689 |
| 1893 | 220,584 | 141,640 | 13,092,942 | 164,592 | 632,767 | 9,081 | 315,313 |
| 1894 | 339,404 | 193,760 | 16,382,577 | 206,054 | 934,083 | 22,289 | 422,103 |
| 1895 | 608,441 | 560,823 | 22,384,285 | 302,828 | 1,191,850 | 21,647 | 885,298 |
| 1896 | 642,566 | 343,680 | 16,351,936 | 218,292 | 1,288,946 | 37,961 | 599,933 |
| 1897 | 504,372 | 275,647 | 10,903,611 | 147,165 | 2,256,916 | 65,942 | 488,754 |
| 1898 | 540,114 | 295,046 | 13,930,801 | 227,288 | 2,780,391 | 82,240 | 604,574 |
| 1899 | 459,919 | 332,637 | 11,453,332 | 185,804 | 2,294,919 | 73,573 | 592,014 |
| 1900 | 542,064 | 543,972 | 11,966,326 | 221,604 | 1,727,360 | 40,884 | 806,460 |

* Including extract of meat.

A satisfactory solution of the question of disposing of the surplus stock by export to Europe is surrounded with great difficulty. It has

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not yet been ascertained whether a remunerative price for mutton can be maintained in London, nor—what is often lost sight of—whether the state, under the present conditions of stock-raising, is able to fatten off the surplus stock it now produces; this last is very doubtful. One of the essentials of a successful export trade is continuity of supply, without which the business cannot thrive. On page 579 there is given a statement of the estimated losses of sheep which the pastoralists have suffered through drought during a period of twenty-six years. From this it appears that in only nine of those years has there been no loss through the seasons. In some of the other years the loss has been extreme, and a recurrence of similar seasons would leave little of the cast available for export, even if it were possible to fatten the stock. These are matters which require consideration in connection with the export trade from which such great hopes are entertained.

The quantity of fresh and frozen mutton imported into the United Kingdom during 1900 was 379,999,200 lb.; besides this, there was an import of 383,000 sheep. These two classes of imports would be equal to about 8,300,000 carcases of Australian mutton, reckoning the average carcase at 48 lb. The present New South Wales surplus, after deducting the local demand, and the requirements of the meat-preserving works as shown on page 629, is 755,000 sheep. The following table shows the consumption of fresh mutton in England; the figures represent the number of animals, the weight of which cannot be given:—

| Year. | Locally-raised Sheep available for Slaughter. | Live Imports. | Frozen Imports. | Total Consumption. |
|---|---|---|---|---|
| 1883 | 11,340,000 | 1,116,000 | 201,000 | 12,657,000 |
| 1884 | 11,750,000 | 945,000 | 632,000 | 13,327,000 |
| 1885 | 12,027,000 | 751,000 | 777,000 | 13,555,000 |
| 1886 | 11,582,000 | 1,039,000 | 1,187,000 | 13,808,000 |
| 1887 | 11,760,000 | 971,000 | 1,542,000 | 14,273,000 |
| 1888 | 11,575,000 | 956,000 | 1,975,000 | 14,506,000 |
| 1889 | 11,794,000 | 678,000 | 2,164,000 | 14,636,000 |
| 1890 | 12,667,000 | 358,000 | 2,948,000 | 15,973,000 |
| 1891 | 13,414,000 | 344,000 | 3,358,000 | 17,116,000 |
| 1892 | 13,457,000 | 79,000 | 3,310,000 | 16,846,000 |
| 1893 | 12,681,000 | 63,000 | 3,890,000 | 16,634,000 |
| 1894 | 11,987,000 | 485,000 | 4,324,000 | 16,796,000 |
| 1895 | 11,910,000 | 1,065,000 | 5,053,000 | 18,028,000 |
| 1896 | 12,342,000 | 770,000 | 5,718,000 | 18,830,000 |
| 1897 | 12,227,000 | 612,000 | 6,307,000 | 19,146,000 |
| 1898 | 12,060,000 | 664,000 | 6,628,000 | 19,352,000 |
| 1899 | 12,241,000 | 608,000 | 6,892,000 | 19,741,000 |
| 1900 | 12,474,000 | 383,000 | 6,786,000 | 19,643,000 |

Below is given a statement of the average wholesale prices obtained in various years for English and frozen mutton sold in London. From an examination of the figures, it would seem that the class requiring

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locally-grown mutton in England is quite distinct from that using frozen mutton :—

| Year. | Best English. | New Zealand. | Australian. | River Plate. | Year. | Best English. | New Zealand. | Australian. | River Plate. |
|---|---|---|---|---|---|---|---|---|---|
| | d. | d. | d. | d. | | d. | d. | d. | d. |
| 1883 | 9 | 7 | 6 | 6 | 1892 | 7 | 4 | 3 | 3 |
| 1884 | 7 | 6 | 5 | 4 | 1893 | 6 | 4 | 3 | 3 |
| 1885 | 7 | 5 | 4 | 4 | 1894 | 7 | 4 | 2 | 2 |
| 1886 | 8 | 5 | 4 | 4 | 1895 | 7 | 3 | 2 | 2 |
| 1887 | 6 | 4 | 4 | 3 | 1896 | 6 | 3 | 2 | 2 |
| 1888 | 7 | 4 | 4 | 3 | 1897 | 7 | 3 | 2 | 2 |
| 1889 | 8 | 5 | 4 | 4 | 1898 | 7 | 3 | 2 | 2 |
| 1890 | 8 | 4 | 3 | 3 | 1899 | 7 | 3 | 2 | 2 |
| 1891 | 7 | 4 | 3 | 3 | 1900 | 7 | 4 | 3 | 3 |

## Other Pastoral Products and By-products.

The minor products arising from pastoral occupations include tallow, edible fat and lard, skins and hides, furs, horns, hoofs, bones, and hair. Some of these are more specially dealt with in the chapter on manufactories and works, and need here only brief mention.

The production of tallow fluctuates considerably. The following table shows the total quantity produced, the quantity exported, and that locally used, for each year of the decennial period 1891–1900. During the first two years of the period the average output was only about 19,600 tons; and for the last three years it only exceeded this by 2,000 tons; but for the five years 1893–1897 the annual average was 42,150 tons. The maximum output during the ten years was 53,861 tons in 1895 :—

| Year. | Estimated Quantity of Tallow. | | |
|---|---|---|---|
| | Produced. | Locally consumed. | Exported. |
| | tons. | tons. | tons. |
| 1891 | 17,335 | 6,154 | 11,181 |
| 1892 | 21,819 | 6,153 | 15,666 |
| 1893 | 42,033 | 9,153 | 32,880 |
| 1894 | 53,455 | 11,093 | 42,362 |
| 1895 | 53,861 | 14,115 | 39,746 |
| 1896 | 28,549 | 8,346 | 20,203 |
| 1897 | 32,849 | 8,593 | 24,256 |
| 1898 | 23,305 | 6,713 | 16,592 |
| 1899 | 19,492 | 7,139 | 12,353 |
| 1900 | 22,221 | 6,768 | 15,453 |

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During 1896 and 1897 a quantity of edible fat was exported to the United Kingdom; but lately the industry has been abandoned. In 1896 the quantity sent away was 142,339 lb., of the value of £1,779; in 1897 the quantity exported was 480,002 lb., valued at £4,887. The quantity and value of lard, the produce of the state, exported during the last eight years was—in 1893, 31,759 lb., valued at £569; in 1894, 51,112 lb., valued at £773; in 1895, 68,564 lb., valued at £1,078; in 1896, 40,723 lb., valued at £714; in 1897, 60,489 lb., valued at £1,029; in 1898, 99,465 lb., valued at £1,882; in 1899, 37,339 lb., valued at £703; and in 1900, 32,690 lb., valued at £630. During the first two years mentioned the exports of lard were in excess of the imports; but in 1896, 1897, 1898, 1899, and 1900 there was a net import of 60,047 lb., 189,741 lb., 203,567 lb., 262,714 lb., and 210,185 lb. respectively.

The value of the net exports of skins and hides for the last ten years was as follows:—In 1891, £388,395; in 1892, £509,933; in 1893, £628,594; in 1894, £398,029; in 1895, £643,989; in 1896, £313,199; in 1897, £450,865; in 1898, £502,640; in 1899, £362,698; and in 1900, £290,781.

There is a small trade done in the export of furs, the produce of the state, the value in 1894 being £669; in 1895, £1,245; in 1896, £1,371; in 1897, £2,947; in 1898, £1,961; in 1899, £1,659; and in 1900, £2,465. The import is larger, the value of the net import of furs being in 1894, £2,923; in 1895, £2,998; in 1896, £2,990; in 1897, £3,015; but in 1898 it fell to £419; and in 1899 to £482. The value of the imports for 1900 rose again to £3,960. The imported furs are, of course, of the kind which could not be obtained locally.

The value of hoofs, horns, and bones, the produce of the state, exported during the last six years was as follows:—In 1895, £20,114; in 1896, £20,627; in 1897, £21,954; in 1898, £14,678; in 1899, £19,343; and in 1900, £20,128.

The hair of animals is used largely for upholstering, and in the plastering trade. The value of hair exported, the produce of the state, for the last five years was, in 1896, £8,339; in 1897, £6,618; in 1898, £6,972; in 1899, £11,866; and in 1900, £8,155. A considerable quantity is also used locally.

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# FORESTRY AND FISHERIES

## Forestry.

FEW countries have such a wealth of timber as New South Wales possesses. Its woods are as varied as they are valuable, ranging from the ironbarks, unsurpassed for work requiring hardness and durability, to the kinds suitable for the most delicate specimens of the cabinet-maker's art. It must be confessed, however, that some varieties of timber trees, at one time very plentiful, and which, had they received attention at the hands of the state, would be plentiful still, are now hard to find in any district to which there is easy access. But this is the common experience of new countries, where the pioneers, whether settlers or timber-getters, cut down indiscriminately, giving no thought to anything but their immediate requirements.

The necessity of preserving the timber resources of the state, by preventing the ruthless destruction of the best species of brush and hardwood which was being carried on, principally in the Clarence River district and in the eucalyptus forests on the Murray, led the Government, in 1871, to establish throughout the country a certain number of Forest Reserves in which permission to cut timber should be granted upon payment of a fixed fee. It soon became apparent that stringent regulations alone could put a stop to the reckless operations of the licensed timber-getters; but it was not until September, 1878, that such regulations were issued. These appeared not a day too soon, as the best species of cedar, which abounded in the Clarence River districts, had been exploited to such a wasteful extent that the supply of this magnificent timber threatened to give out. Cutting down indiscriminately trees of all sizes, and clearing the lower lands of their best timber, the cedar-cutters, after disposing of all that could be cheaply transported, or easily floated down the rivers in time of flood, left a considerable surplus of felled timber to lie and rot on the ground. Then they travelled farther north, to carry on the same depredations along the rivers of Queensland. The same system had been pursued in the gum forests of the Murray. Considerable quantities of excellent timber were destroyed in the forest reserves, to the detriment of the district, which was deprived of its natural wealth, and to the injury of the state at large, which suffered the loss of much of its best timber without receiving an equivalent in revenue.

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In 1875 the office of Forest Ranger was first created, and this led to the formation, in March, 1882, of a Forest Conservation Branch, the administration of which has been the subject of many changes, being first attached to Lands Department, then to the Department of Mines, then to the Chief Secretary's Department, afterwards to the Department of Mines and Agriculture again, and more recently—in 1897—to the Department of Lands. On the formation of the branch in 1882, the state was also subdivided into a number of forest districts. These are inspected by forest rangers, whose duty it is to report on the existing state of proclaimed reserves, control the operations of licensed timber-getters, receive royalties on the various kinds of timber upon which such dues may be levied, and report upon applications to improve the grazing capacity of forest lands, by destroying useless or superabundant timber. In performing many of these duties the forest rangers, it may be mentioned, are assisted by the mounted police force. The area of reserves under the supervision of the Department on the 31st December, of each of the years, 1899 and 1900, is shown in the following table:—

| Division. | 1899. | 1900. |
|---|---|---|
| | acres. | acres. |
| Class A..... | 2,824,320 | 3,347,598 |
| Class B..... | 157,743 | 161,683 |
| Class C..... | 2,964,292 | 2,846,324 |
| Total..... | 5,946,355 | 6,355,605 |

As shown in the above table, reserves for the preservation of timber are divided into three classes, according to their importance and the particular quality and value of the timber which they contain; and, in addition, there are a small number of reserves which are at present only used for the purpose of planting selected species of trees. Licenses are issued to cut timber on reserves in class A at a fixed fee of £6 per annum, or 10s. per month, without royalty; and on reserves in Class B, at £9 per annum, or 15s. per month. On reserves in Class C, general permits to cut timber for saw-mills are issued at a rate of £6 per annum, or 10s. per month, to which is added the payment of a royalty of not less than 3d. nor more than 3s. per 100 superficial feet, as may be decided by the Minister; provided that when the trees are suitable for splitting only, the royalty may be charged at not less than 1s. 6d. per 100 cubic feet.

Licenses are also issued to cut and remove timber on ordinary Crown lands, except timber reserves, reserves for public recreation, sites for towns and villages, and areas permanently dedicated for any public purpose; also lands within 1½ chains of any navigable river, lands held under conditional or special lease, or measured for sale, or within an

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enclosure of less than 200 acres, or within half a mile of a head station or within permanent or temporary commons. The fee in this case is fixed at £3 per annum, 15s. per quarter, or 5s. for any current month; and the license enables the holder to cut and remove any kind of timber except cedar, beech, blackwood, Moreton Bay pine, silky oak, rosewood, red and black bean, and coachwood, the license fee for cutting which is fixed at £6 per annum or 10s. per month.

The prescribed girth, 5 feet from the surface of the ground (except ironbark, which is to be measured 2 feet from the ground), under which measurement no felling of the following timbers is permitted, is given in the subjoined table for the different species of trees:—

| Timber. | Girth. ft. | in. |
|---|---|---|
| Red cedar | 9 | 0 |
| Blackbutt | 7 | 6 |
| Tallow-wood | 7 | 6 |
| Red gum or flooded gum | 7 | 6 |
| *Ironbark (of various species) | 7 | 6 |
| Hoop or Moreton Bay pine | 7 | 6 |
| Red bean | 7 | 6 |
| Black bean | 7 | 6 |
| Onion-wood | 7 | 6 |
| Mountain ash | 7 | 0 |
| Grey or blue gum | 7 | 0 |
| Woollybutt | 7 | 0 |
| Brush or white box | 7 | 0 |
| Turpentine | 7 | 0 |
| Spotted gum | 7 | 0 |
| Messmate | 7 | 0 |
| White beech | 7 | 0 |
| Blue beech | 7 | 0 |
| Negro-head beech | 7 | 0 |
| Rosewood | 7 | 0 |
| Peppermint or red-wood | 7 | 0 |
| Swamp mahogany | 7 | 0 |
| Forest red gum | 7 | 0 |
| Silky oak (*Grevillea robusta*) | 6 | 0 |
| Mahogany (forest and red) | 6 | 0 |
| Mahogany (white) | 6 | 0 |
| *Stringybark | 6 | 0 |
| Box and grey box | 6 | 0 |
| White box | 6 | 0 |
| Red Box | 6 | 0 |
| Eurabbie | 6 | 0 |
| Mountain gum | 6 | 0 |
| Grey gum | 6 | 0 |

| Timber. | Girth. ft. | in. |
|---|---|---|
| Cudgerie or Flindosa | 6 | 0 |
| Blood-wood | 6 | 0 |
| Sassafras | 5 | 0 |
| Yellow cedar | 4 | 6 |
| Black-wood | 4 | 6 |
| Yellow box | 4 | 6 |
| Stavewood | 4 | 6 |
| Apple-tree | 4 | 6 |
| Blue fig | 4 | 6 |
| Bogum Bogum | 4 | 6 |
| Corkwood (*Ackama Muelleri*) | 4 | 6 |
| Blue-berry ash | 4 | 0 |
| Pigeon-berry ash | 4 | 0 |
| Black, red, or white pine | 3 | 0 |
| Swamp oak | 3 | 0 |
| Forest oak | 3 | 0 |
| Red ash | 3 | 0 |
| Maiden's blush | 3 | 0 |
| Coachwood | 3 | 0 |
| Corkwood (*Endiandra Sieberi* and others) | 3 | 0 |
| Native olive | 3 | 0 |
| Beefwood | 3 | 0 |
| Tulip | 3 | 0 |
| Water gum | 3 | 0 |
| Hickory | 3 | 0 |
| Brigalow | 3 | 0 |
| Myall | 3 | 0 |
| Honeysuckle | 3 | 0 |
| River oak | 3 | 0 |
| Black oak | 3 | 0 |
| Silky oak (*Orites excelsa*) | 3 | 0 |
| Brown pine | 3 | 0 |

* West of Great Dividing Range, 4½ feet for ironbark and 4 feet for stringybark.

Trees not mentioned above may be cut at the minimum girth endorsed on the license, or as specified in writing by the Forester-in-charge.

The license fee for stripping wattle-bark is fixed by regulation at not less than 10s. nor more than 40s. per month. No tree of less girth than 15 inches of the black or feather-leaf species, nor less than 12 inches of the golden or broad-leaf species of wattle, measured at 2 feet from the

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ground, is permitted to be stripped; and each tree is required by the regulations to be thoroughly stripped before the person so employed passes on to another. Permits are also issued for cutting piles and mining props, and for thinning out timber, in order to improve the growth of the trees remaining; and for cutting and removing from a reserve a specified number and kind of trees.

Infringements of the timber regulations are punishable by fine of not less than £1 and not exceeding £5 for the first offence, not less than £5 and not exceeding £10 for the second, and not less than £10 and not exceeding £20 for the third, irrespective of the value of the timber and material destroyed, for which also the offender may be held responsible. The number of prosecutions for illegally cutting and removing timber during the year 1900 was 220, and convictions were obtained in 189 cases, as compared with 215 prosecutions and 168 convictions in 1899.

In the reserves subject to royalty, at per 100 feet, the quantity of timber cut during each of the years 1891-98 is shown below. Similar information is not now collected for the Forestry Department. It will be seen that the quantity fluctuated considerably from year to year :—

| | | |
|---|---|---|
| 1891 | 11,760,497 | sup. feet |
| 1892 | 15,818,000 | ,, |
| 1893 | 10,506,472 | ,, |
| 1894 | 5,158,759 | ,, |
| 1895 | 4,922,707 | ,, |
| 1896 | 6,076,916 | ,, |
| 1897 | 4,820,827 | ,, |
| 1898 | 8,632,241 | ,, |

In addition to the above, large quantities of sleepers and piles were also obtained.

The revenue of the Department from forestry in 1899 and 1900 was £11,866 and £14,421 respectively, made up as follows :—

| Particulars. | 1899. | 1900. |
|---|---|---|
| Forest reserves— | £ | £ |
| Permit licenses | 379 | 460 |
| Timber-cutters' licenses | 1,280 | 1,231 |
| Wattle bark licenses and miscellaneous | 327 | 311 |
| Royalty | 5,255 | 7,534 |
| Crown lands— | | |
| Quarry, wood-cutters', cedar, and fuel licenses | 3,483 | 3,645 |
| Prickly pear leases, sales of confiscated material, and penalties | 1,142 | 1,240 |
| Total £ | 11,866 | 14,421 |

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The cost of administering the Department during the year was £5,101, as compared with £5,323 in 1899. This sum is exclusive of the cost of the services of Inspectors of Conditional Purchases acting as foresters. The amount received from the forest reserves and forest lands of the Crown in each year since the regulations were proclaimed on the 24th September, 1878, is shown below :—

| | £ | | £ |
|---|---|---|---|
| 1879 | 7,310 | 1890 | 15,437 |
| 1880 | 8,328 | 1891 | 18,455 |
| 1881 | 10,156 | 1892 | 16,176 |
| 1882 | 12,327 | 1893 | 9,547 |
| 1883 | 16,301 | 1894 | 6,350 |
| 1884 | 17,565 | 1895 | 6,534 |
| 1885 | 13,144 | 1896 | 8,727 |
| 1886 | 13,934 | 1897 | 8,760 |
| 1887 | 13,629 | 1898 | 10,952 |
| 1888 | 19,019 | 1899 | 11,866 |
| 1889 | 16,521 | 1900 | 14,421 |

During the five years 1894–98, 97,353 acres of red gum forests, 115,384 acres of pine forests, and 2,000 acres of coastal forests were improved by thinning-out and destroying the superabundant growths. This work was carried out with the object of ensuring the maturity of a larger number of trees to the acre, and, in consequence of the additional light and air afforded, of their reaching that stage in about two-thirds of the time that would be taken under natural conditions. The cost of the thinning-out operations averaged 7s. 6d. per acre in the red gum areas, 4s. 5d. in the pine areas, and 7s. in the coastal areas; and it is estimated that this outlay will return during the next twenty years two or three hundred marketable trees to the acre where the present unimproved average is but four or five trees. During 1899 and 1900, thinning operations were continued in the cypress pine forests in the Narrandera, Corowa, Condobolin, and Grenfell districts, and the red gum forests in the Deniliquin district. In all, 65,012 acres of pine forests were thinned at a cost of about 3s. 5d. per acre, and the clearing up work on 7,500 acres of red gum averaged 4¾d. per acre.

The Forest Conservation Branch is charged with the direction of a State Forest Nursery, which is situated at Gosford, in the beautiful district of Brisbane Water, where the acclimatisation of valuable foreign timber trees, and the conservation of such of the best indigenous species as might be likely to disappear, have received attention. The area set apart for the nursery is 65 acres, of which about one-half is cleared and cultivated. Among the indigenous trees which have been raised there may be mentioned tallow-wood, blackbutt, beefwood, silky oak, yellow pine, Richmond River beech, the best varieties of ironbark, and red cedar; besides a large number of indigenous and exotic shrubs, for the ornamentation of parks, hospital grounds, recreation reserves, and other public properties, about 40,000 plants being annually raised and distributed. Every year the surplus stock of plants



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is used in improving the uncultivated part of the nursery, by the formation of avenues and ornamental plots. As the different species mature, the seeds are collected, and either used for the purpose of raising fresh stocks, or exchanged for the seeds of varieties indigenous to foreign countries. Thus the nursery is gradually being made to serve the purpose of an arboretum.

So far as the raising of native timbers is concerned, however, the Gosford Nursery is now but little used. As a matter of fact, the planting of hardwood seeds has proved so far from successful that only a small proportion of the seedlings have grown when replanted elsewhere, and it is open to doubt whether Australian hardwoods, when raised in nurseries, can be grown with any degree of success for the purpose of producing marketable timber. It is not only in New South Wales that efforts to grow the transplanted seedlings have given but barren results—a similar experience has been gained in other countries, where it has been found that the blue gum (*E. globulus*) and other hardwoods, when planted, never grow to any size, and lose their best characteristics in the foreign soil. But against this disappointing fact may be placed the abundant proof to be found throughout the forest reserves that nearly all the hardwoods of the state reafforest themselves when the large trees are cut down, and what is chiefly required is greater protection for the young trees. At the present time these young trees are cut down in hundreds of thousands annually for mining props and other purposes which could be more effectually served by split timber from mature trees, although, perhaps, the first cost might be greater. These remarks may not also apply to all the semi-hardwoods, such as the fancy and figured brush timbers, or to all the softwoods; but in the case of the red cedar, it has been demonstrated in the Don Dorrigo reserves and elsewhere that the seedlings will not thrive when planted in the open. At Don Dorrigo, some years ago, spaces were cleared around the young cedar trees for the purpose of admitting light and air; but the experiment was not successful, the young trees growing in their natural state in an adjoining position proving the better in comparison.

The consumption of wattle-bark is very great in the state, where it is in large demand for tanning purposes. During 1900, 78,859 cwt. of wattle-bark were imported, valued at £28,728, more than 30,000 cwt. of this supply being obtained from Tasmania. It will thus be readily seen that there is room for a large development of the trade in New South Wales. The Forest Department has taken steps to prevent the indiscriminate stripping of the bark and the destruction of the trees, which should have the effect of stimulating the industry. The license fees actually charged for stripping wattle-bark in the various districts range from 10s. to 15s. per month, although the regulations allow of fees ranging to 40s. per month.

Forestry is as yet only in its initial stages in New South Wales, and in fact in Australasia, and the establishment of a School of Forestry has

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been strongly advocated from time to time. Such a School of Forestry, where youths fresh from the higher schools could have imparted to them a sound practical knowledge of the many valuable timbers of the state together with sufficient botanical instruction to enable them to make a proper classification when called upon to do so, would, no doubt, be eagerly availed of by those desirous of qualifying as timber experts.

## EXPORT OF TIMBER.

The depression which affected the industrial life of Australia, in common with that of most other lands, has had the good effect of showing how desirable it is to diversify the industries of the country. In the past there was an undoubted lack of enterprise in pushing an export trade, a disposition being evinced to rest content with what was being done in this direction with a few products of the pastoral and mining industries. This apathy seems now to have been shaken off, and it is very probable that the near future will see a large increase in the shipments of domestic produce, and a successful attempt made to supply local wants with various descriptions of goods which are now imported. With no article of commerce was the failure to approach consumers in the densely-populated countries of the old world more marked than with timber. Although New South Wales is rich in hardwoods most suitable for use in the various forms of engineering construction, and an opening for this class of timber has long existed in Europe and America, until recently but little had been done to open up a trade with those countries. For many years the development of the local timber trade proceeded on the assumption that the forests afforded a never-failing supply of merchantable woods; this mistaken notion is not now entertained, for the supply of some of the most popular of the hardwoods seems to be somewhat limited for an export trade. Still, there can be little doubt that there is for the present abundance of good timber of every description, and, if steps be taken to protect the young trees, there need be no fear for the future. The indigenous trees are being supplemented by the planting of good foreign species, and it has been stated, on expert authority, that the soil and climate of New South Wales are suitable to the growth of the favourite pines and hardwoods of commerce. It is, therefore, certain that, with the exercise of a reasonable amount of foresight, New South Wales would be able to favourably compete for a portion of the trade of countries less advantageously placed in respect of this important article.

The timber resources of New South Wales are more valuable than those of any of the other states, and include at least twelve different species of hardwood trees suitable for export. Notwithstanding this, however, the export trade of the state is exceeded by that of Western Australia and of New Zealand. This will be seen from the following table, which gives the exports of domestic timber of each of the six

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states, and of New Zealand, during the past seven years. Shooks and staves, doors, sashes, and other shaped articles are included in the figures; and sandalwood is credited to Western Australia and Queensland :—

| State. | Exports of Timber. | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1894. | 1895. | 1896. | 1897. | 1898. | 1899. | 1900. |
| | £ | £ | £ | £ | £ | £ | £ |
| N. S. Wales..... | 34,030 | 45,029 | 46,830 | 59,786 | 76,941 | 102,218 | 99,349 |
| Victoria..... | 5,940 | 8,214 | 11,991 | 11,677 | 11,215 | 9,881 | 11,399 |
| Queensland ..... | 2,720 | 2,570 | 5,304 | 7,816 | 8,189 | 7,008 | 18,105 |
| South Australia.. | 54 | 105 | 247 | 824 | 147 | 582 | 1,858 |
| West'n Australia | 98,234 | 119,009 | 182,220 | 241,931 | 358,007 | 582,917 | 497,499 |
| Tasmania ..... | 20,347 | 32,685 | 32,997 | 35,656 | 28,995 | 40,930 | 42,213 |
| New Zealand ... | 122,686 | 147,511 | 136,109 | 155,736 | 166,060 | 197,570 | 233,734 |

The decline in the values evidenced in some of the years previous to those quoted was due to the stoppage of public and private works, consequent on the disturbed financial conditions prevailing in Australasia, the trade having been very largely an intercolonial one. It will be noticed, however, that the industry is everywhere reviving. The efforts made to capture a portion of the large timber trade of the United Kingdom have been partially successful, and to the end of 1899 the export returns showed a continuous improvement. During 1900, however, the exports to Great Britain fell considerably, and timber to the value of £199,580 only was exported, as compared with £408,731 in 1899, and £212,810 in 1898. Western Australia is the only state which exports largely to the United Kingdom, but the value of jarrah and karri sent away in 1900 was only £187,464, as against £385,004 and £189,416 in 1899 and 1898 respectively. At first sight it may appear strange that Western Australia should lead the way here, but there is nothing surprising in this fact, when it is remembered that, for years before New South Wales took steps to advertise the value of its timbers, both the Government and the private firms of Western Australia had steadily and persistently advocated the claims of their woods in the European markets, and had consequently secured a sound footing there before the mother state seriously entered into the trade. Perhaps the only regrettable result of this state of things was that European buyers, having been brought into contact with the jarrah and karri of Western Australia, acquired the impression that only red-coloured hardwoods could be durable, and were inclined to look askance at the pale-coloured timbers of New South Wales, such as blackbutt and tallow-wood. To some extent this absurd prejudice has been overcome, but not altogether. As a matter of fact, this state possesses at least half-a-dozen distinct varieties of eucalypt which are equal in all respects to the Western Australian woods in durability and suitability for wood-paving.

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With the exception of 1898 and 1900, the yearly value of the timber exports from New Zealand to the United Kingdom exceeded that of New South Wales, but in these years the positions were reversed, the exports of New South Wales being valued at £11,814 in 1898, and of New Zealand at £11,081; in 1900 the values were £6,637 and £4,764 respectively. The trade, however, is in entirely different classes of woods, New Zealand sending only Kauri pine, and New South Wales mainly hardwoods. Until an amended Forestry Act is passed, it is questionable whether it is desirable to encourage a greater export trade outside of Australia and New Zealand. For the reason stated above, our light-coloured woods are not viewed with favour in England, and there is but little first-class red hardwood to offer. In addition, the demand for the best hardwoods throughout the Commonwealth and New Zealand is so great, that large orders for Europe would considerably increase the present enhanced prices, and largely augment the cost of public works. New Zealand affords one of the best markets for the hardwoods of New South Wales, and at the present time the timber merchants of the mother state are executing orders from the New Zealand Railway authorities for about 4 million superficial feet of iron-bark, and a quarter of a million superficial feet of tallow-wood, while large orders are annually received from the Harbour Boards and other constructing bodies. It is rare, indeed, for any of the Union Steamship Company's steamers to leave Sydney or Newcastle without consignments of hardwood for New Zealand; and sailing vessels, carrying from 100,000 to 200,000 superficial feet of timber, leave the Clarence River and Port Stephens monthly for various New Zealand ports. For the twelve months ended 30th June, 1901, the following timber has been shipped from New South Wales to New Zealand, on account of Government Railways, Public Works, and Harbour Boards:—

| | Sup. feet. |
|---|---|
| Ironbark, hewn and sawn ... ... ... ... ... | 1,976,348 |
| ,, round piles (32,087 lineal feet) ... ... ... | 460,000 |
| Tallow-wood, sawn ... ... ... ... ... ... | 67,000 |
| Hardwood sleepers, squared (No. 189,083) ... ... | 4,411,937 |
| Total .. | 6,915,285 |

The above total is irrespective of the timber exported to private firms, municipal councils, etc., which take not less than 1½ million superficial feet of hardwood annually, so that the New Zealand trade alone may be roughly set down at 8½ millions superficial feet for the year ended June, 1901. These figures are comparatively high, and are due to the fact that the railway authorities purchased 190,000 hardwood sleepers, 7 ft. long, for their narrow-gauge railways. It is intended to procure a further large supply during 1902, in preference to West Australian jarrah and karri. From the above it will be seen that there is but litttle doubt as to the importance of the timber industry to

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New South Wales. It has been estimated that fully one-half of the saw-mills north of Sydney, and hundreds of pile-getters, timber-squarers, and teamsters, depend largely for their livelihood on the timber trade with New Zealand.

Since 1896 the value of New South Wales timbers has been well advertised throughout Great Britain and the Continent, but the process of building up such a trade must necessarily be slow, for it will take time to prove to the municipal corporations and other users that the hardwoods of this state are superior to all other timbers for wood-paving purposes—with the exception, perhaps, of Western Australian jarrah, which is, without doubt, a first-class timber.

During the past twelve months, the hardwood sawmills have been kept going to their fullest capacity in providing for home consumption and for the export trade; prices of timber have risen, and the many hundreds of men employed in the industry are enjoying increased prosperity.

The following table shows the value of the timber shipped to each country from New South Wales in 1899 and 1900, according to the Customs returns:—

| Country. | Value. | | Country. | Value. | |
|---|---|---|---|---|---|
| | 1899. | 1900. | | 1899. | 1900. |
| | £ | £ | | £ | £ |
| New Zealand | 33,521 | 37,093 | Japan | ... | 469 |
| Queensland | 17,848 | 12,721 | China | ... | 437 |
| Victoria | 9,010 | 7,920 | United States | 736 | 373 |
| United Kingdom | 8,694 | 6,637 | Hawaiian Islands | 196 | ... |
| Germany | 1,573 | 6,019 | Canada | 66 | 171 |
| New Caledonia | 6,121 | 5,233 | France | 138 | ... |
| South Australia | 10,689 | 4,755 | Marshall Islands | 259 | 57 |
| Fiji | 2,747 | 4,624 | Belgium | 1,002 | 113 |
| New Guinea | 1,632 | 3,365 | Norfolk Island | 11 | 50 |
| South Sea Islands | 2,538 | 3,201 | Hong Kong | 16 | 14 |
| Western Australia | 930 | 2,550 | Kaiser Wilhelm's Land | ... | 4 |
| Neu Pommern | 1,977 | 1,237 | Natal | ... | 4 |
| Tasmania | 1,909 | 1,167 | | | |
| Caroline Islands | ... | 1,135 | | | |
| Cape Colony | 605 | ... | Totals | 102,218 | 99,349 |

During 1900 the other states of the Commonwealth took 29·3 per cent. of the exports, as compared with 39·51 per cent. in 1899, New Zealand, 37·34 per cent., and the islands of the Pacific, 19·08 per cent. The proportion of only 6·68 per cent. went to the United Kingdom, as compared with 8·51 per cent. in 1899, 15·36 per cent. in 1898, 22·68 per cent. in 1897, 27·08 per cent. in 1896, 23·98 per cent. in 1895, and 3·68 per cent. in 1894, the value of the timber forwarded in 1900 being £6 637.

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The exports in 1899 and 1900 were made up of the following :—

| Description. | 1899. | | 1900. | |
|---|---|---|---|---|
| | Quantity. | Value. | Quantity. | Value. |
| | | £ | | £ |
| Dressed timber ..... | 113,165 sup. ft. | 958 | 194,615 sup. ft. | 1,803 |
| Rough ,, ..... | 14,388,676 ,, | 75,574 | 12,565,234 ,, | 68,914 |
| Houses ..... | 21 No. | 1,927 | 24 No. | 3,923 |
| Sleepers ..... | 75,645 ,, | 11,670 | 69,807 ,, | 10,713 |
| Palings ..... | ..... ,, | ..... | 1,020 ,, | 8 |
| Posts and rails ..... | 3,316 ,, | 498 | 973 ,, | 182 |
| Doors ..... | 47 ,, | 62 | 148 ,, | 150 |
| Sashes ..... ..... | 375 ,, | 98 | 1,355 ,, | 356 |
| Shooks and staves ... | 10,395 pkgs. | 2,874 | ..... | 5,275 |
| Spars ..... ..... | 173 No. | 206 | 7 ,, | 19 |
| Paving blocks ..... | 213,325 ,, | 1,091 | 660,724 ,, | 4,348 |
| Piles ..... ..... | 6,023 ,, | 7,250 | 1,608 ,, | 3,643 |
| Shutters ..... | 16 ,, | 10 | 30 ,, | 15 |
| Total ..... | ..... | 102,218 | ..... | 99,349 |

Notwithstanding the great natural resources of New South Wales the imports of timber are very considerable and largely exceed the exports, the value of the import trade in 1900 being £547,520. Of this sum, however, re-exports to the value of £40,163 were made, leaving the imports for local use at £507,357. The bulk of the timber which comes into the state consists of pines and other soft woods, the native pine being in some respects inferior to oregon and kauri, but there are other softwoods equal to any of the timbers imported. The imports during the year consisted of dressed timber valued at £85,055, rough timber estimated at £413,614, and sundries, such as doors, sashes, shooks and staves, laths, shingles, and palings, worth £48,851. The bulk of the dressed timber in 1900 came from Norway, which supplied no less than 5,662,941 sup. feet out of a total of 12,469,433 sup. feet imported. The United States furnished the next largest quantity with 1,956,937 feet; while 1,924,140 feet were imported from New Zealand, 1,468,980 feet from Victoria, and 1,446,268 feet from South Australia. Of the rough logs, 32,152,623 feet came from the United States, 23,490,776 feet from New Zealand, 18,089,247 feet from South Australia, 2,088,429 feet from Victoria, 1,940,168 feet from Tasmania, 792,187 feet from Queensland, and 778,460 feet from Canada. The bulk of the United States exports are from Port Eureka, California; and the Canadian, from Puget Sound. The trade returns show a somewhat large importation from the neighbouring states, but those states are not the places where the timber was grown. Victoria supplies the Riverina district, and Broken Hill, where there is a large demand for timber for mining purposes, is supplied by South Australia.

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The figures which have been given show how small is the export trade of New South Wales in timber, and how open it is to development. It is in the hardwoods of the country that the future expansion of trade may be looked for. Australian hardwood trees are remarkable for the great size of the beams which may be obtained from them, as well as for the extreme strength and durability of their wood. From the table given on page 47 it will be seen that the grey ironbark has a resistance to breaking equal to 17,900 lb. per square inch, as compared with a mean of 11,800 for English oak, and 15,500 for teak. None of the other local timbers has so high a resistance to breaking as this description of ironbark; but nearly all the varieties have a greater strength than oak. The absence of branches for the greater portion of the height enables the timber to be obtained to the best advantage; and as full-grown trees of most varieties are rarely less than 100 feet high, with corresponding girth, the quantity of timber obtainable is very large. It will easily be seen, therefore, that the timbers of the state are in every way suitable for building construction, wood-blocking, jetties, railway carriages, and other work in which durability is required. That the United Kingdom offers unlimited scope for the woods of New South Wales may be judged from the fact that it annually imports timber to the value of from £20,000,000 to £30,000,000, or considerably more than the value of the whole domestic exports of the state.

The description and value of timber imported into the United Kingdom during the years 1899 and 1900 are shown in the subjoined table :—

| Description. | 1899. | 1900. |
|---|---|---|
| Hewn :— | £ | £ |
| Fir | 3,401,023 | 4,299,518 |
| Oak | 959,949 | 1,018,829 |
| Teak | 654,304 | 786,066 |
| Unenumerated | 304,099 | 358,312 |
| Sawn :— | | |
| Fir | 15,602,637 | 17,856,360 |
| Unenumerated | 606,914 | 829,999 |
| Staves | 659,312 | 721,850 |
| Furniture woods and hard woods:— | | |
| Mahogany | 693,949 | 827,520 |
| Unenumerated | 1,349,376 | 1,177,459 |
| House frames, fittings, etc. | 1,445,425 | 1,195,314 |
| *Other woodware and wood turnery | ..... | 1,109,410 |
| Total..... £ | 25,676,988 | 30,180,637 |

*Information not available prior to 1900.

In this trade Australasia, with its valuable resources, shared to the extent of £323,723, or about 1·07 per cent. The largest participant was Russia, with £6,233,347; Sweden's share was £5,942,896, and

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that of the United States, £5,425,941; while Canada supplied £5,380,561; Norway, £2,024,940; Germany, £1,470,839; France, £1,068,554, and Burmah, £681,675. The hewn fir was pretty fairly distributed over the great countries of Europe; the United States, Germany, and Canada sent the greater part of the oak; Burmah supplied from its forests 86·67 per cent. of the teak; while nearly half of the unenumerated hewn timber was furnished by Canada. The kingdoms of Norway and Sweden, the Russian Empire, the Canadian Dominion, and the United States of America supplied the sawn pine; and the staves were principally the product of Germany, Russia, and the United States. The largest supplies of mahogany came from Mexico, British Honduras, the United States, and the West Coast of Africa, which between them furnished 77,615 out of 89,593 tons of this favourite wood with English furniture-makers. Included in the sum of £1,177,459 shown as the value of other "furniture woods and hardwoods" imported, is £290,117—the value of 73,490 tons of timber imported from the Commonwealth. Western Australia took the largest share with £277,525; then followed New South Wales, with £12,280. The shipments from the other states were very small, amounting to but £300 from Queensland and £12 from Victoria. The house frames, fittings, joiners' and cabinet work, and other woodware and wood-turnery, were mostly furnished by the United States, Germany, Sweden, Belgium, France and Holland.

It is impossible to say how much of the timber exports of other countries could be displaced in the United Kingdom by Australian hardwoods and fancy timbers, but that the quantity is considerable cannot be doubted. Importers there have taken the best kinds offering for the purposes they had in view, and for the past few years New South Wales has been labouring to show, by the distribution of pamphlets and in other ways, that many of its species of trees produce superior woods to those now used for certain classes of work. In the British Isles, whose coasts are so thickly studded with harbours, a vast quantity of timber is used for piers and jetties; and for this class of work the turpentine, grey gum, and box timbers are very well fitted as compared with the woods of other countries, having a much longer life. New Zealand is now using large quantities of turpentine and brush box for public works. The turpentine piles are found eminently suitable, while the brush box is becoming known as one of the finest hardwoods in existence for bridge or wharf decking. The Bluff Harbour Board has been using brush box for two years, and has recently placed an order for 200,000 superficial feet in New South Wales. For other constructive outdoor work both above and below ground, in which strength and durability are desirable, for railway sleepers, and for street-paving, the hardwoods of the State are well suited, while some kinds, such as the mountain ash, are fitted for the making of furniture. At the Chicago Exhibition the Commissioners for New South Wales Railways showed six sleepers, three

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of which had been taken out of the Suburban line after being in the road for twenty-four years, and three out of the Western line, near the Lithgow Zig Zag, which had been in the road for twenty-three years; and these sleepers were but little the worse for wear. The Forest Department also exhibited railway sleepers, made of ironbark and red gum, which had stood the test of seventeen to twenty-five years' constant use. A portion of the New South Wales Court was laid with wooden blocks of blue gum, blackbutt, tallow-wood, forest mahogany, and box-wood, showing the suitability of these hardwoods for paving. Ironbark was also tried for this purpose, but was not successful, being too slippery on the surface. The utility of many woods for street-paving has been proved in Sydney, the blocks, after subjection to heavy and continuous traffic for nearly ten years, having exhibited but slight wear. Professor Warren, in his work on "Australian Timbers," states that he is continually being shown specimens of timber, taken from bridges or piles in damp ground, which have been in use for forty to sixty years or more, and show no signs of decay.

Apart from the progress which has been made in bringing New South Wales timbers under the notice of English buyers, the foundation of what it is hoped may become a profitable trade has been laid on the Continent of Europe. In France and Germany there is an immense opening, not only for hardwoods for wood-paving and railway-carriage and waggon-building, but for softwoods, particularly the red-coloured varieties, for cabinet-work. At first the German people were inclined to doubt the statements published in regard to the timbers of this state, but they have now become fully alive to their value, and are beginning to buy largely, the German steamers leaving Sydney taking consignments for Hamburg and other cities almost weekly. Also, Belgium has lately begun to buy New South Wales turpentine wood; in fact, there are no bounds to the possibilities of the export trade, provided only suitable varieties are sent away. Some time ago the Government appointed an officer to inspect and brand timber for export; but only limited advantage is taken of this system by shippers, and it would be an undoubted benefit to the state, as well as to buyers, if inspection were made compulsory, for there is no disguising the fact that in the New South Wales forests are to be found timbers of inferior quality but so alike in colour to the best hardwoods that deception could easily be practised, and their shipment would have a very prejudicial effect on trade in future years. This difficulty could, however, be overcome if continental buyers insisted on receiving no timbers which had not undergone Government inspection and were provided with a Government certificate, as this would compel the exporters to apply for inspection before shipping. The quantity inspected and branded during 1900 amounted to 736,854 superficial feet, as compared with 666,000 superficial feet in 1899.

It is estimated by the Forestry Department that the area of ironbark lands belonging to the Crown is 16,870,000 acres, on which there is sufficient timber ready for cutting to yield 167½ million sleepers, and

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that if private lands are also taken into account the number of ironbark sleepers alone which the state can produce may be set down at 500 millions, sufficient for no less than a quarter of a million miles of railway track. It does not follow, however, that there is any appreciable supply of this wood available for export to Europe, for against the figures quoted have to be placed the large quantities of ironbark required annually for local public works, and for New Zealand and the Commonwealth, while so far no provision has been made for the protection of the young trees for future generations. As a matter of fact, the export of ironbark, as well as tallow-wood and red mahogany, is to be deprecated, for these three woods are becoming very scarce, and the remaining supply may well be retained for home consumption. Nothing is to be gained from the shipment of these timbers; there are others, equally good for many of the required purposes, of which there are abundant supplies, such as grey gum, blue gum, blackbutt, spotted gum, brush box, and turpentine. Certainly, for structural purposes, none of these will compare with ironbark in breaking strain, but it is only a matter of increasing the members by an inch or two to secure equal results. In point of durability, some of the kinds named will bear favourable comparison with ironbark, while for piles, for which this timber is universally used, grey gum is nearly equal to it in dry driving, and turpentine is equal to it in water driving. One result of its wholesale export is the extra cost to the Department of Public Works of sawn ironbark for truss bridge work throughout the state, and the fact that the Railway Commissioners of New South Wales are now accepting any "approved hardwood" sleepers in lieu of ironbark. Some idea of this may be gained from the fact that whereas several years ago sawn ironbark for this particular class of work could be readily purchased in Sydney in large quantities at 14s. per 100 superficial feet, it is now only obtainable in small quantities at 28s. to 30s. per 100 superficial feet. Tallow-wood for bridge-decking has also increased in price from 9s. 6d. to 10s. per 100 superficial feet to 12s. 6d. to 15s., and there is every prospect of a still further advance in price.

The following is a list of the best of the New South Wales hardwoods, with the purposes for which they are most suited:—

*Blackbutt.*—A height of 100 to 200 feet is attained by this tree, and its diameter ranges from 3 to 8 feet. It has even been found measuring 15 feet across, but this width is exceptional. It gives a first-class wood, strong and durable, and suitable for house carpentry, bridge planking, paving blocks, ships' decks, and other purposes of a similar kind.

*Blue Gum* (*Eucalyptus saligna*).—This tree reaches a height of 100 to 120 feet, with a diameter of 3 to 5 feet. The timber is strong and durable, straight in grain, and is easy to work. It is used in building construction and ship-building, and for ships' planks, wheel naves and felloes, paving blocks, etc. The wood of the so-called blue gum of New South Wales is red in colour, not unlike red mahogany, and can,

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therefore, easily be distinguished from the blue gum (*Eucalyptus globulus*) of Tasmania and Victoria, which is of a pale yellow colour. An inferior growth of the same tree is known by the name of *Flooded Gum.*

*Forest Mahogany.*—The height of this tree ranges from 60 to 120 feet, and its diameter from 3 to 5 feet. Its wood is red in colour, and is strong and durable. It is suitable for paving blocks, fencing, beams, rafters, and rough carpentry, while experts from Canada and elsewhere have pronounced it suitable for high-class cabinet-work, if properly seasoned.

*Grey Ironbark.*—This tree, which grows to a height of 100 to 150 feet, with a diameter of 2 to 5 feet, gives one of the very best of hardwoods. It is hard, heavy, tough, inlocked, and durable. It is suitable for piles, girders of bridges, railway sleepers, poles and shafts of carriages, and other like purposes.

*Mountain Ash.*—This tree reaches a height of 100 to 150 feet, with a diameter of 3 to 4 feet. Its wood is tough, durable, and elastic; and it splits easily. The timber is suitable for staves of casks, shingles, poles, shafts of drays, palings, rails, rough buildings, and some classes of furniture.

*Narrow-leaved Ironbark.*—A height of 100 to 150 feet is attained by this tree, with a diameter of 2 to 3 feet. Its wood is hard, heavy, strong, inlocked, and durable; and is suitable for railway sleepers, girders, spokes of wheels, poles and shafts of carriages, etc.

*Grey Box.*—This tree grows to mammoth size in the Southern districts of the state. The timber is strong, durable, and fairly straight-grained. It is used for paving blocks, posts, building purposes, mauls, railway sleepers, etc.

*Red Ironbark.*—This eucalypt grows to a height of 100 to 150 feet, with a diameter of 3 to 5 feet. Its wood is highly valued for all purposes in which strength and durability are required. Large beams and girders, railway sleepers, and draw-poles, are some of the purposes for which it is extensively used.

*She or Pale Ironbark.*—This tree attains a height similar to that of the red ironbark, with a diameter of 4 to 5 feet. Its wood is highly appreciated, being hard, tough, strong, inlocked, and durable. It is used in bridge construction, and for railway carriages, poles of drays, spokes of wheels, piles, beams, and other similar purposes.

*Spotted Gum.*—This eucalypt derives its vernacular name from the spotted appearance of its bark. It grows to a height of 100 to 150 feet, with a diameter of 2 to 4 feet. The timber is strong, close-grained, elastic, and durable; and it splits well. It is suitable for paving blocks, ship and house building, girders, coopers' staves, cart and buggy shafts, etc.

*Stringybark.*—The *Eucalyptus microrrhyncha*, or stringybark, grows to a height of 50 to 100 feet, and a diameter of 24 to 54 inches. It gives a light, hard, strong, and close-grained wood, which polishes well. House carpentry, flooring-boards, and fencing are some of the purposes for which it is most suited.

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*Tallow-wood.*—This tree, which grows to a height of 100 to 150 feet, with a diameter of 6 to 8 feet, gives a strong, durable, and handsome wood, which shrinks less than most Australian hardwoods, and rarely splits or shells. It is largely used for building purposes, especially for flooring; and for boat-building, piles, bridge-decking, and paving-blocks. The flooring of the fine new building of the Equitable Life Assurance Society of the United States, in Sydney, has been laid in parquetry with this wood.

*Turpentine.*—A height of 150 to 200 feet, with a diameter of 3 to 5 feet, is attained by this tree, the timber of which is much valued for piles, paving-blocks, posts, ship-building, girders, and other constructive purposes, being strong, hard, heavy, and durable, and most difficult to burn.

*White Box.*—This tree grows from 50 to 60 feet in height, with a diameter of 20 to 40 inches. The timber is hard, tough, and durable, and possesses great lateral strength. It is suitable for naves, felloes, scantlings, jetty, and bridge-piles, planking, fencing, etc.

*Woollybutt.*—This eucalypt reaches 100 to 150 feet in height, with a diameter of 3 to 5 feet. The timber, which is strong and durable, is suitable for house-building, wheelwrights' work, fencing, felloes, spokes, shafts, etc.

Present market rates in Sydney of the principal hardwood timbers are as follow :—

| Kind of Timber. | Round piles: per running foot. | Girders: per cubic foot. | Scantling: per 100 sup. feet. | Sawn timber in larger sizes, other than scantling, free from heart. |
|---|---|---|---|---|
| | s. d. | s. d. | s. d. | s. d. to s. d. |
| Black butt | 1 6 | 1 8 | 13 6 | 14 0 to 18 0 |
| Blue gum | 1 6 | 1 8 | 13 6 | 14 0 ,, 18 0 |
| Brush box | 1 6 | 1 8 | 13 6 | 12 0 ,, 15 0 |
| Forest mahogany | 1 6 | 1 8 | 13 6 | 12 0 ,, 15 0 |
| Grey ironbark | 2 0 | 2 0 | 17 0 | 21 0 ,, 25 0 |
| Grey gum | 2 0 | 2 0 | 17 0 | 21 0 ,, 25 0 |
| Mountain ash | ..... | ..... | 22 0 | 25 0 ,, ..... |
| Narrow-leaved ironbark | 2 0 | 2 0 | 17 0 | 18 0 ,, 22 6 |
| Red ironbark | 2 0 | 2 0 | 17 0 | 21 0 ,, 25 0 |
| She or pale ironbark | 2 0 | 2 0 | 17 0 | 21 0 ,, 25 0 |
| Spotted gum | 1 6 | 1 8 | 15 6 | 15 6 ,, 25 0 |
| Stringybark | 1 6 | 1 8 | 13 6 | 14 6 ,, 18 0 |
| Tallow-wood | 1 9 | 2 0 | 16 0 | 18 0 ,, 20 0 |
| Turpentine | 1 6 | 1 8 | 14 6 | 14 0 ,, 18 0 |
| White box | 1 6 | 1 8 | 13 6 | 15 0 ,, 16 0 |
| Woollybutt | 1 6 | 1 8 | 13 6 | 15 0 ,, 16 0 |

The cost of putting the timber on board vessels in Sydney is from 9d. to 1s. per 100 superficial feet, in addition to the prices quoted above. The freight from Sydney to London may be stated at 5s. to 6s. per 100 superficial feet for sailing vessels, and 8s. to 10s. for steamers. Wood-blocking timber is always shipped in full cut sizes, but in long

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lengths, say 15 to 25 feet, in order to prevent cracking and the extra expense of handling; it can, therefore, only be quoted, as in the table above, at per 100 superficial feet. Moreover, the wooden blocks used by the municipalities in England vary in size.

The softwoods of the state are found chiefly in the brush forests of the coast district, and rival those of any other part of the world. Some of the least known of the brush forest trees have wood grained and marked most beautifully, which is capable of receiving the highest polish, while others are fragrantly perfumed. These woods are adapted to the finest description of cabinet-making, and it is strange that their merits should have so long escaped attention. Amongst the chief varieties of woods of this class may be mentioned the red cedar, now unfortunately disappearing, the beautiful wood of which, somewhat resembling mahogany, is admirably adapted for the finer kinds of cabinet-makers' work. Some of the cedar trees grow to immense size, as much as 2,500 cubic feet of valuable timber having been obtained from one tree. In addition to the cedar may be mentioned rosewood, tulipwood, yellow-wood, white maple, white beech, myall, marblewood, mock orange, red and black bean, and many others. Besides their use for cabinet-making, many of the brush timbers are of great utility for the rougher kinds of carpentry, while some, both hard and soft woods, are admirably adapted for coach-builders' and coopers' work. The chief description of pine growing in New South Wales is the Moreton Bay white pine, found in the coast districts, as far south as the Bellinger. It is soft, light, and easily wrought, and suitable for all the interior woodwork of houses, as well as for cabinet-making. The red or black pine is extensively distributed over the Liverpool Plains, and in the Lachlan and Darling River districts, as well as around Berrima. It is beautifully marked in the grain, takes a fine polish, and has an agreeable fragrance. There are numerous other varieties of pine, but these resemble in their main features the trees already described. Australian deal is an excellent timber, and is obtained in very large scantling, the tree frequently reaching 120 feet in height. It is soft, close-grained, easily wrought, and remarkably free from knots. Its use, therefore, is extensive for cabinet-makers' work and house fittings. A commercial agent in England, if supplied with samples of our fancy timbers such as rosewood, bean, silky-oak, &c., should have no difficulty in inducing cabinet-makers to order large quantities at good prices; these timbers only require to be known to be appreciated.

The beauty of colour and grain of many of these fancy timbers would, doubtless, cause them to be highly prized by furniture makers, if they were brought under their notice. Even if they could not be placed in London at the rates paid for the woods which are popular with cabinet-makers there at present, that would only be a slight drawback, as a large proportion of the British public are willing to pay a higher price for an article if they can thereby obtain something uncommonly beautiful. A description of some of the best of the soft

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and fancy woods of New South Wales, with their market values, etc., is given below in the same manner as the hardwoods have already been dealt with :—

*Beech.*—This tree, which attains a height of 100 to 150 feet, with a diameter of 3 to 5 feet, is one of the most useful of New South Wales trees, giving a strong, white, close-grained, and durable wood, which is easily worked, and is greatly valued for decks of vessels, flooring, turnery, and furniture-making. It is very suitable for bedroom suites.

*Black Bean.*—This tree grows to a height of 120 to 130 feet, with a diameter of 4 to 5 feet. The wood is handsome, dark-coloured, close-grained, and durable. It greatly resembles walnut, and is equally suitable for cabinet-making. Very handsome gun-stocks have been made of this timber.

*Black Oak.*—This timber, which grows from 40 to 50 feet in length, with a diameter of 18 to 24 inches, is also suitable for cabinet-making. It is used in the state for bullock yokes, mauls, tool handles, and shingles.

*Blackwood* reaches a height of 50 to 80 feet in New South Wales, with a diameter of 18 to 24 inches. Like black bean, the timber greatly resembles walnut, and is one of the state's most serviceable furniture woods. It is highly valued for all kinds of cabinet-work, billiard-tables, and carriage building.

*Coachwood* is a light, soft, fragrant, close-grained, and tough wood. It is suitable for coach and boat building, and for cabinet-work. It grows to a height of 50 to 70 feet, with a diameter of 12 to 24 inches.

*Colonial Pine* reaches a height of 150 to 200 feet, with a diameter of 2 to 4 feet. The wood is pale in colour, and is strong and durable if kept continually dry or wet, but it soon decays if exposed alternately to dryness and dampness. It gives spars 80 to 100 feet long.

*Common or White Pine* varies in colour from light to dark brown. It is a very durable, knotty wood, takes a good polish, and has an odour of camphor. It is used for building purposes. The timber attains a height of 60 to 70 feet, with a diameter of 18 to 24 inches.

*Forest Oak* is another valuable wood for cabinet-making. It is a handsome timber, rather heavy. The tree grows to a height of 80 feet, with a diameter of 2 feet.

*Rosewood* is one of the largest and best of the trees of the state. It is a strong, close-grained, and durable timber, red in colour, and rose-scented, and is of the greatest value for all kinds of cabinet-work. It would make an excellent substitute for mahogany, which is so largely used by English cabinet-makers. The tree reaches a height of 100 feet, and its diameter is 4 to 6 feet.

*Myall.*—This tree grows to a height of 30 to 40 feet, with a diameter of 18 to 20 inches. It is a hard, durable wood, and is greatly esteemed for the manufacture of glove and handkerchief boxes, etc., having a perfume of violets when unpolished.

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*Tulip-wood*, which grows to a height of 50 to 60 feet, is a close-grained, hard, and firm timber. Its appearance is uncommon and attractive, being marked with irregular, longitudinal streaks of black and yellow, and it takes a fine polish. It would make handsome suites of furniture.

*Silky Oak.*—The *Grevillea robusta*, which attains a height of 70 to 80 feet, is one of the most suitable woods of the state for boudoir and bedroom suites. Its colour is a light grey, beautifully crossed with silvery waves. It possesses a delicate lustre when polished.

*Red Cedar.*—This is a beautiful wood, much valued for the manufacture of furniture and for fittings of houses and ships. It is of a dark red colour, and, although light and easily wrought, is very durable. The tree commonly grows to a height of 100 feet, with a diameter of 6 feet; but it has been found 200 feet high, and with a diameter of 10 feet.

*Yellow Cedar* grows to a height of 50 to 60 feet, and a diameter of 2 to 3 feet. It is close-grained and durable, and polishes well. The timber is suitable for cabinet, carving, turning, and fancy work.

*Yellow-wood.*—The *Daphnandra micrantha* attains a height of 100 to 120 feet, with a diameter of 3 feet. The wood is yellow in colour, and fragrant; it is close-grained, easily wrought, and polishes well, and is very suitable for cabinet-making.

*Satinwood* is another timber yellow in colour It is soft and silky to the touch, close-grained, and easily wrought. This wood is also suitable for cabinet-making, and is considered to be superior to the satinwood used in the English furniture trade.

*Lignum Vitæ.*—This is another white beech. It is smaller in its proportions than the beech already described, and grows to a height of 70 to 80 feet, with a diameter of 2 feet. It is used for similar purposes.

The following table shows the values in Sydney of the softwoods enumerated above, cut in planks or flitches:—

| Kind of Timber. | Per 100 sup. ft. | Kind of Timber. | Per 100 sup. ft. |
|---|---|---|---|
| | s. d. | | s. d. |
| Black bean | 22 6 | Myall | 35 0 |
| Black oak | 25 0 | Tulip-wood | 40 0 |
| Blackwood | 30 0 | Silky Oak | 30 0 |
| Coachwood | 25 0 | Red cedar | 55 0 |
| Colonial pine | 15 0 | Yellow cedar | 55 0 |
| White pine | 17 0 | Yellow-wood | 25 0 |
| Forest oak | 25 0 | Satinwood | 30 0 |
| Rosewood | 30 0 | Lignum vitæ | 24 0 |

## Eucalyptus Oil.

A volatile oil, which is extensively used for medicinal purposes and in manufactures, is distilled from the leaves of the eucalyptus trees of

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Australia and Tasmania. The quantity of oil obtained varies according to the species and the district in which it is found; but the percentage yielded by a few of the best known kinds may be set down as under:—

| | | |
|---|---|---|
| *Eucalyptus amygdalina* | 3·313 | per cent. |
| ,, *oleosa* | 1·250 | ,, |
| ,, *leucoxylon* | 1·060 | ,, |
| ,, *goniocalyx* | 0·914 | ,, |
| ,, *globulus* | 0·719 | ,, |

The *E. amygdalina* and the *E. globulus* give the principal oils of commerce. The latter species takes kindly to foreign soil and climate, and its cultivation has rendered habitable parts of countries which otherwise would have been hot-beds of fever. Algeria and California are formidable competitors with Australia and Tasmania for the supply of the requirements of the world in the matter of eucalyptus oil. In 1899 and 1900 the shipments from New South Wales were as follows:—

| Country. | 1899. | 1900. |
|---|---|---|
| | £ | £ |
| Germany | 911 | 2,225 |
| United Kingdom | 15 | 76 |
| New Zealand | 7 | 58 |
| United States | 20 | 34 |
| Queensland | 50 | 25 |
| Victoria | ... | 14 |
| Western Australia | ... | 14 |
| Belgium | 100 | ... |
| Other Countries | ... | 27 |
| Totals | 1,103 | 2,473 |

## Fisheries.

The seas that wash the shores of New South Wales abound with fish, but this source of wealth to the state has been greatly neglected. Splendid fishing-grounds extend along the whole length of the coast, which presents many natural features peculiarly favourable to the existence of a very large supply of the best food fishes. In the quiet waters of its numerous bays and estuaries, and in the vast lakes and lagoons communicating with the sea, are found shelter and sustenance, as well as excellent breeding-grounds. The principal fishes found on the coast are not migratory, and as a consequence may nearly always be procured in the market. It is unnecessary to dwell here on the value of the many food fishes to be found in the waters of the state as that has already been dealt with in the chapter on "Fauna"; it may be sufficient to repeat that the late Rev. J. E. Tenison-Woods placed the number of edible species at 105. But with an unlimited supply in the sea, the fishing industry has long been in an unsatisfactory condition, and fresh fish is, with few exceptions, scarce and high-priced; while



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preserved fish is imported annually to the extent of £130,000 for local consumption. During 1900 the supply of fresh fish placed upon the Sydney market was considerably below that of the previous year. It is impossible to give the value of the quantities marketed, as a record is no longer kept of the fish sold at auction, but 67,347 baskets were received, as compared with 87,525 in 1899, and 75,218 during 1898. The decrease was accounted for by the fact that owing to the large quantities of various disinfectants and chemicals that found their way into Sydney Harbour during the bubonic plague scare large numbers of fish died, and, consumers becoming alarmed, the demand practically ceased. The waters of Port Jacksoon were at once closed to net-fishing, and stringent measures were adopted to prevent any fish from these waters being marketed, but it was some time before public confidence was restored.

The latest effort of the Government to place the industry on a basis on which it might be built up to the large proportions to which it ought properly to attain was the appointment of a Royal Commission in 1894 for the purpose of reporting on the best means of carrying out the object in view. This body heard a great deal of evidence on the condition of the industry, and visited several of the other states in order to see personally what had been and was being done in regard to the fisheries. As a result, they recommended in their report, which was presented to Parliament in June, 1895—that further legislation be passed for the purpose of regulating the industry; a systematic exploration of the coast, made in a properly equipped trawling vessel, to determine the capabilities of the deep-sea fisheries; live fish transmitted to market by means of well-boats; refrigerating cars adopted for transmission of fish by rail; a central fish market erected near Darling Harbour Railway Terminus, with urban and suburban auxiliary markets; the middleman abolished, and authority given to fishermen to vend their own fish; fish-carts substituted for the present system of hawking with basket and barrow; and other proposals of an important character carried out. Towards the close of 1896 a Government Bill for the better regulation of the fisheries and the fishing industry was prepared and presented to Parliament, but the measure was dropped owing to the pressure of business, and has not been taken up again. However, one of the recommendations of the Commission—that which suggested trawling experiments off the coast—was carried into effect in 1898, the Government steamer *Thetis* being fitted out for the purpose. The experiments were deemed successful; but it had not been seriously doubted that deep-sea fishing with the trawl could be properly conducted, provided the operations were carried out by experienced hands. What is required is some inducement to experienced men to devote their capital to the development of the fishing industry in Australian waters.

At the present time, the control of the fisheries of the state is placed in the hands of a body of five unpaid Commissioners, who are

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appointed for a term of five years, and who, through their inspectors and other officers, supervise the fishing industry, and see that the regulations which they have issued in regard to the dimensions of nets, the closing of tidal waters to net-fishing, and other matters, are observed. Every fisherman in tidal waters must apply for a license yearly, the fee being 10s., which is reduced to half the amount if the license is issued in the second half of the year. A license must also be taken out for every fishing-boat, the fee being £1, which likewise is reduced by one-half if granted after the 30th June. Penalties are imposed by the Fisheries Acts for breaches of the regulations of the Commissioners.

The number of fishing-boat licenses issued during the year 1900 was 417, and the number of licenses granted to fishermen was 866, the fees received for these 1,283 licenses amounting to £766. The class of boat used for fishing purposes in New South Wales is poor, and very little improvement is likely to result to the industry if the present fishermen are left unaided with their primitive appliances, and others of a better class, provided with capital, are not induced to take up the industry.

For the purpose of oyster culture, the Crown grants leases of the foreshores of tidal waters, which may be defined as between the mean high and mean low-water mark. The rental is 20s. per annum for every 100 lineal yards. The maximum length for which a lease may be obtained is 2,000 yards; but as the same person may take out more than one lease, the portion of shore which may be acquired is practically unrestricted by the Oyster Fisheries Act. The lease may be taken for a term of ten years. Leases of deepwater or natural oyster beds are also granted for an area not exceeding 25 acres, at a rental which must not be less than £2 per acre. During the year 1900, 332 applications for leases of areas of from 100 to 1,000 yards, representing a total area of 81,274 yards, were made; while at the end of the year the existing leases numbered 987, and the length of foreshore held was 304,463 yards. In addition, there were in existence deep-sea leases to the extent of 4 acres. The deposits paid with the applications for leases amounted to £818, while the rentals received from leased areas came to £2,827 during the year.

Owing to bad management, the oyster-beds of Port Jackson, Port Stephens, the Hawkesbury, and the Shoalhaven were greatly injured, so that the markets of Sydney have to depend upon the beds of the Manning, the Richmond, and other northern rivers, as well as places beyond the state, for their supply of oysters. The appointment of the Fisheries Commission in 1880 probably prevented the entire extinction of the oyster industry in New South Wales, though the operations of the Commission have been much impeded through lack of sufficient legislation to enable them to check the improvidence of the lessees, who, with few exceptions, strip the oyster-beds without regard to future supply. There is but little doubt that the establishment of "parcs" like those which may be seen along the coasts of France and Belgium

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where oyster culture is conducted on scientific principles, would be remunerative, as the demand for this delicacy is great and continually increasing. During 1900, 17,260 bags of oysters were obtained from the tidal waters of the state. The output for the year was not so great as in 1899, when 20,182 bags were taken; this decrease was partly caused by the spread of disease in some of the rivers. The quantity obtained during 1900, however, showed a satisfactory increase on the takes of years previous to 1899; while in addition to this supply, 1,089 bags of oysters were imported, their value being set down at £1,544. Of this quantity, 781 bags came from Queensland, 159 from South Australia, 103 from New Zealand, and 46 from Victoria. A bag of oysters contains 3 bushels, and at the end of 1901 the price per bag of good oysters in Sydney ranged from 25s. to 55s., according to quality.

## The Whale Fisheries.

At a time when efforts are being made to revive the whale fishery, it is interesting to trace the history of what was in the early days regarded by many as likely to become the staple industry of the state. In the year 1791, three ships are recorded as having sailed from Sydney harbour for "the fishery." These were all convict transports, one of which, the Britannia, a vessel belonging to the whaling firm of Samuel Enderby and Sons, is said to have been the first ship to pursue the fishery on the Australian coast. In 1793, Enderby joined the British Government in the expense of fitting out a ship to undertake a voyage to the South Seas, with a view to extend the whale fishery there; and in the following year the ships of this enterprising speculator were actively engaged in whaling off the coast of New Zealand. It was the custom of ships, such, for instance, as those owned by Campbell, one of the earliest of Australia's merchants, to import teas and sugars from Bengal, and British manufactures from England, such as cotton and woollen goods, hats, and other articles, and to obtain a return cargo of oil and skins, although the oil export was relinquished subsequently on account of the duty imposed on its importation into England. The whale fishery was particularly flourishing during the first years of settlement, and it afforded employment to a considerable number of persons. In 1802, ships were again despatched to pursue the whaling industry off the coast of New Zealand; but according to the evidence of Mr. Campbell, given in 1812, the oil-fishery in Australian waters was then entirely stopped, as the duty and the heavy freights prevented its importation into England, and colonial vessels were not allowed to navigate beyond the limits of the territory. The sealing industry was, however, continuously pursued. In 1823, the firm of Enderby and Sons fitted out a ship to prosecute the fishery off the Seychelle Islands, and the southern branch of the industry experienced a decided revival

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Up to this time no sperm oil had arrived in England save that imported in the ships engaged in the actual fishery of the animal, but in 1823 entries were made in the English Custom-house of sperm oil imported from the colonies, chiefly from Sydney, although the whole quantity so introduced was only 6,083 tuns, the colonial oil being partly the produce of vessels fitted out for the trade from Sydney and Van Diemen's Land. In all probability this oil was that obtained from the black, or right whale, the breeding-grounds of which animal were to be found in Cook's Straits, where what in whaling parlance were termed "shore parties" established themselves for the purpose of killing the whale, the produce of which was sent on to Sydney. The value of the trade in whale oil may be appreciated from the fact that during the year 1827 the total quantity imported into England was 5,552 tuns; and in 1828 the total produce of the New South Wales fisheries alone was 298 tuns of sperm oil, 50 tuns of black oil, 118 tuns of the oil of the sea-elephant, and 7,647 sealskins. The English import fluctuated considerably, but reached its maximum in 1831, when it was recorded as 7,605 tuns.

In 1829 a certain William Sutton went to Portland Bay, and established himself at Whaler's Point, where, during the next few years, he founded a whaling-station, and engaged also in sealing. Here, too, the Hentys came; while the industry had been carried on in Tasmania since 1816, Frederick Henry Bay being the first fishing-ground in that island. In 1830, no less than seventeen ships belonging to Port Jackson were engaged in whaling, a number which had grown to 35 in 1833, and in 1834 to 40, the largest of which was of 365 tons, and the smallest of 80 tons burthen. In the first years of the colony's history the sperm and black oil fisheries, particularly the former, presented a fair field for the investment of capital on a large scale; but by this time the sums embarked in the industry were so considerable that further enterprise had little encouragement. Moreover, the immediate returns were of so precarious a character, and the risks and losses so serious, that a speedy and steady return for capital invested could not be expected, and speculators preferred to put their money into squatting pursuits. The value of the whale fishery to Australia in 1834 may be seen from the fact that while the vessels sailing from Sydney numbered 40, the total number engaged from English ports in whaling in all parts of the world was 90, of from 300 to 400 tons burthen. In 1839, no less than 1,229 tuns of black oil, valued at £41,341, were exported, principally to Great Britain; and 1,279 tuns of sperm oil, valued at £111,280. In 1840, the importation of sperm oil into Great Britain was 5,722 tuns, of which quantity 1,719 tuns were from Australia, exceeding slightly the importation from America, which was 1,717 tuns, but the latter had to pay the high duty on foreign "take" of £24 10s. per tun. The reduction of the duty on the importation into the United Kingdom of foreign whale oil is said, however, to have destroyed the southern whale fishery as far as England itself was concerned; the number of ships fitted out in

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British ports being in 1841, nineteen; in 1842, eleven; and in 1843, only two, while seven whalers were laid up in port, six were sold out of the trade, and eight were offered for sale. Ships continued to be sent forth from Australian ports, however, and about this time Mr. Benjamin Boyd, whose career in New South Wales was so interesting, and whose death was so tragic, established a whaling-station at Twofold Bay, at a depôt named, after himself, Boyd Town, whence, for some years, vessels were despatched to the southern whaling-grounds, and the pursuit actively prosecuted.

The colonists of Western Australia had also engaged in the whale fishery, which appears to have been continued by them until the whales had practically disappeared from local waters. The practice of Australian whalers of killing the calves, in order to secure the capture of the mothers, did great damage to the fishery by wastefully thinning out the product, and in 1843 the animal was remarked as becoming somewhat shy and scarce in southern seas. By the year 1847, when the industry had died out entirely in Tasmania, it was noted that it was likewise declining in southern waters generally, and that Australian shipping was engaging more exclusively in colonial trade, although many craft were still at work in whaling on different parts of the coast, and the "take" for years afterwards comprised an export of much value. In 1850 this amounted to 576 tuns of sperm and 16 tuns of black oil, and nearly 14 tons of whalebone, together of a total value of about £29,000; while during the following year the export was 588½ tuns of sperm and 13 tuns of black oil, and nearly 67 tons of whalebone, together of a value of close upon £26,000. The value of the total quantity of whale oil exported from New South Wales has been estimated at about £3,000,000, and from Tasmania at about £1,200,000.

Early in the fifties the whaling industry gravitated to New Zealand, which was found to be central to the fisheries in the South Seas, and a convenient position for the establishment of "shore" parties. Indeed, to this day it is usual for old whalers to animadvert on the New Zealand method of securing the cetacean as having, more than anything else, conduced to the extinction of the animal. The New Zealand fishery was initiated by Captain Eames, from Auckland Harbour, early in the year 1852; but the decline in the industry was henceforward very rapid. In 1850 there were upwards of four hundred whaling vessels in the Southern Ocean alone; while in 1872 there were but seventy-two ships in the middle ground—in fact, the fishery totally died out; but of late years it has again attracted attention, and a small number of vessels prosecute the industry during the season.

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# LOCAL GOVERNMENT

NEW SOUTH WALES is slow to adopt a general system of local government, notwithstanding the pressing necessity for such a step. In Victoria, Queensland, South Australia, and New Zealand, comprehensive systems of local government have been in existence for many years, and the benefits derived therefrom are recognised, not only by the Governments, but by the ratepayers whose property is affected. The central Government is relieved of responsibility and expenditure which form no part of its proper functions, while the property-owner, though compelled to pay rates from which he was previously free, receives benefits which more than compensate for his direct payment.

Under the system at present obtaining in New South Wales, no district, however populous, is compelled to become incorporated, and it is only on the presentation of a petition, signed by at least fifty of the prospective ratepayers, and containing a larger number of signatures than those attached to any counter petition, that a municipality can be formed. Judged by past experience, this voluntary principle is not conducive to the adoption of a general system of local government; for so long as the central Government continues to construct local works, it is evident that the residents benefited will submit to the absence of local management of their affairs.

In the course of the year 1894 a Bill was submitted to the Legislative Assembly, providing for the incorporation of the entire unincorporated area of the state into boroughs, municipal districts of a maximum area of 400 square miles, and shires; but in consequence of the insertion of a clause which they considered contrary to a vital principle in the Bill, the measure was abandoned by the Government. It was proposed by the Bill to alter the municipal year so as to extend from the 1st January to the 31st December; to alter the boundaries of existing municipalities by proclamation of the Governor without petition; to rate Crown lands when under lease or license; to make the assessment on either the capital or annual value, the rate on the former to be from ½d. to ¾d. per £; to raise the maximum of the general rate to 1s. 3d. in the £ on annual value; to extend the period of endowment in certain instances to thirty years, the sum granted ranging in amount, per £ of general rates collected, from 60s. during the first five to 10s. during the last five years, down to 10s. during the first five and 2s. 6d. during the last five years; to submit certain

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questions, such as the levying of a special rate, the rating on the capital or the annual value, and the raising of loans, to a general vote of the ratepayers; to levy local rates for works of local benefit; to expend on each riding or ward of a municipality the amount of rates collected from the residents of that riding or ward; to give power to erect rabbit-proof fences, to grant aid to hospitals, and to prevent destruction by fire; to take material for any kind of municipal work from any land on payment of compensation; and to raise the borrowing powers to ten times the total of the general rate.

At the end of 1860 the total area incorporated was 409 square miles; in ten years this had increased to 649 miles only; in 1880 to 1,482 miles; in 1890 to 2,387 miles; in 1899 to 2,763; and in 1900 to 2824 square miles—a very insignificant total compared with the whole area of territory. The subjoined figures give the incorporated and unincorporated areas in November, 1901, in each of the three great divisions of the state:—

| Division. | Incorporated Area. | Unincorporated Area. |
|---|---|---|
| | square miles. | square miles. |
| Eastern ..... | 2,015 | 92,441 |
| Central..... | 552 | 86,105 |
| Western ..... | 292 | 124,661 |
| Total..... | 2,859 | 303,207 |

In addition to the ordinary form of municipal local government, there are various boards and trusts with local jurisdiction, to the operations of which allusion will hereafter be made. The control of water supply and sewerage of the Metropolitan and Hunter districts is relegated to separate boards. At Hay and Balranald there are irrigation trusts, the formation of which was provided for by special Acts; the Municipal Councils constitute the trusts. Another trust, which was established at Wentworth, has been dissolved, and its powers assumed by the Government, and the question of the dissolution of the Balranald Trust is also being considered. The Public Vehicles Regulation Act, the Metropolitan and the Country Towns Water Supply and Sewerage Acts, and the Fire Brigades Act, were all passed with the object of extending the principle of local government, and boards have been established to carry out the provisions of some of these Acts.

Leaving out of consideration the expenditure on works of national importance, the Government has, during the past forty years and a half, expended no less than £33,429,400 on works of a purely local character,

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not including school buildings. Of this sum, £22,245,400 was laid out in the country districts, and £11,184,000 in the metropolitan. The division of the state into local government districts would not necessarily be followed by an entire stoppage of the direct expenditure on works of local interest by the central Government, but the larger portion of the works now undertaken by Government would be left to the local authorities, who, having to provide the expenditure, would probably see that it is laid out to the best advantage. Adopting the two divisions of metropolitan and country, the expenditure on account of public works in each since 1860 is given below. Out of the total metropolitan expenditure, £7,830,200 was spent on tramways and water supply and sewerage works, which are sources of revenue, while in the country districts the cost of similar works totalled £1,263,600 only :—

| Year. | Country districts. | | Metropolitan District. | | Total. | |
|---|---|---|---|---|---|---|
| | Expenditure. | Per Inhabitant. | Expenditure. | Per Inhabitant. | Expenditure. | Per Inhabitant. |
| | £ | £ s. d. | £ | £ s. d. | £ | £ s. d. |
| 1860–1880 | 5,649,382 | ..... | 1,065,410 | ..... | 6,714,792 | ..... |
| 1881 | 583,471 | 1 1 10 | 357,182 | 1 10 10 | 940,653 | 1 4 7 |
| 1882 | 704,892 | 1 5 5 | 702,696 | 2 17 8 | 1,407,588 | 1 15 3 |
| 1883 | 758,052 | 1 6 1 | 931,615 | 3 12 7 | 1,689,667 | 2 0 3 |
| 1884 | 940,858 | 1 10 8 | 669,209 | 2 9 5 | 1,610,067 | 1 16 5 |
| 1885 | 981,951 | 1 10 7 | 704,636 | 2 9 5 | 1,686,587 | 1 16 4 |
| 1886 | 868,923 | 1 6 0 | 767,906 | 2 11 1 | 1,636,829 | 1 13 9 |
| 1887 | 784,941 | 1 2 9 | 556,660 | 1 15 2 | 1,341,601 | 1 6 8 |
| 1888 | 904,477 | 1 5 9 | 344,414 | 1 0 8 | 1,248,891 | 1 4 0 |
| 1889 | 798,383 | 1 2 4 | 583,786 | 1 13 2 | 1,382,169 | 1 5 11 |
| 1890 | 874,077 | 1 3 10 | 444,723 | 1 4 0 | 1,318,800 | 1 3 11 |
| 1891 | 1,126,446 | 1 10 0 | 790,491 | 2 0 6 | 1,916,937 | 1 13 7 |
| 1892 | 1,034,686 | 1 6 11 | 563,015 | 1 7 8 | 1,597,701 | 1 7 2 |
| 1893 | 790,500 | 1 0 2 | 416,100 | 0 19 10 | 1,206,600 | 1 0 1 |
| 1894–5* | 1,421,000 | 1 15 4 | 408,300 | 0 18 9 | 1,829,300 | 1 9 6 |
| 1895–6 | 1,048,200 | 1 5 8 | 215,700 | 0 9 8 | 1,263,900 | 1 0 0 |
| 1896–7 | 743,900 | 0 18 0 | 306,000 | 0 13 6 | 1,049,900 | 0 16 5 |
| 1897–8 | 728,600 | 0 17 4 | 425,600 | 0 18 5 | 1,154,200 | 0 17 9 |
| 1898–9 | 700,500 | 0 16 6 | 532,900 | 1 2 7 | 1,233,400 | 0 18 8 |
| 1899–1900 | 802,300 | 0 18 7 | 397,600 | 0 16 6 | 1,199,900 | 0 17 10 |

* Eighteen months ended June, 1895.

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### Incorporation of the City of Sydney.

The City of Sydney was incorporated on the 20th July, 1842, and the Sydney Municipal Council was established during the same year, the election of aldermen taking place on the 9th November. Mr. John Hosking was the first Mayor. The city was originally divided into six wards, but at a subsequent adjustment the number was increased to eight. After a few years, great dissatisfaction arose in the minds of the citizens in regard to the manner in which the affairs of the Corporation were carried on; a Select Committee of the Legislative Council was appointed in 1849 to inquire into the matter, and it reported in favour of the abolition of the Municipal Council, with a recommendation that its powers should be vested in three Commissioners This was not carried into effect until 1853, when the Corporation was dissolved, and its authority was transferred to a Commission, consisting of Messrs. G. Elliott, J. Rae, and F. Darvall, who administered the affairs of the city from the beginning of 1854 to the end of 1857. A new Council came into existence at the commencement of 1858. Mr. George Thornton was the first Mayor under the changed order of things, and there were sixteen aldermen—two for each ward. By the Sydney Corporation Act of 1879, the number of aldermen was increased to twenty-four, and each ward had three representatives.

Towards the close of 1900, an Amending Act was passed dividing the city into twelve wards, each of which was empowered to return two aldermen. The innovation of having the whole of the aldermen retire simultaneously was introduced by providing for the election of a new Council on the 1st December in every second year, re-election of qualified persons being, of course, permitted. A candidate is debarred from expending more than £50 in his endeavour to obtain a seat in the Council. The penalty for exceeding that amount is a fine of £20; and, in the case of an elected candidate, the election is to become void. Another change brought about by the Act is the enfranchisement of sub-tenants and lodgers. Moreover, power is given to the Council to resume land required for opening or enlarging streets and other public places; and in substitution of auditors chosen by the citizens, Treasury inspectors are, for the future, to check the municipal accounts.

### Suburban and Country Municipalities.

The Act by which the City of Sydney was incorporated contained no provision for the extension of the municipal principle to other localities; but in 1843 the first step was taken towards the extension of the system to the country districts by the incorporation under letters patent of Campbelltown, Appin, Camden, Narellan, and Picton as one District Council, which was afterwards, in the course of the same year, under a special Act, subdivided into two by the formation of Campbelltown and Appin into a separate Council.

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In 1844 the number of country District Councils had increased to eight, and these, in conjunction with the Municipal Council of Sydney and the Road Trusts, subsequently established, constituted the whole of the local government system prior to 1858. In this year the first important measure relating to general municipal government was enacted. An Act was passed making provision for dissolving, if necessary, the District Councils, and placing the areas controlled by them under municipal bodies. Under its authority thirty-five districts were incorporated, which, with the exception of Cook, joined to Camperdown in 1870, and East St. Leonards, subsequently united to St. Leonards, still exist, although nearly one half have been reproclaimed in the interim on account of additions or curtailments of area. The law was amended by the Municipalities Act of 1867, and further amended from time to time. In 1897 all the Municipal Acts, sixteen in number, were consolidated.

In the latter part of 1901, a Bill was submitted to Parliament to codify and amend the Consolidated Act of 1897, and to make further provision for municipal government. It was proposed to confer on Municipal Councils the right to levy their rates on the unimproved value of the land, instead of on the annual value of all property; but a Council, after passing a resolution to thus change the basis of valuation, was debarred from confirming it in the event of twenty or more electors notifying the Mayor that they required a referendum on the matter. Upon a referendum being taken, the result was to be abided by for four years. In cases of the general rates being imposed on the basis of the unimproved value of the whole of the ratable land in the municipality, the rate was not to exceed 2d. in the £. On the other hand, when the general rate was to be collected on the alternative basis, the Councils were to be empowered to collect up to 1s. 6d., in place of 1s., in the £. It was also contemplated to give lodgers a vote.

## Boards and Trusts.

The majority of the boards dealing with local affairs have jurisdiction within the metropolitan area and work mostly in connection with the local municipalities, although possessing powers independent of these bodies. The Metropolitan Transit Commissioners were appointed under the Public Vehicles Regulation Act of 1873, prior to which date the control of the street traffic was vested in the City Council. The Board originally consisted of three members, but in 1886 the number was increased to four by the appointment of a licensees' representative. In 1899 the Public Vehicles Act was passed to consolidate the Acts for the Regulation of Public Vehicles in the city and police district of Sydney, and four Commissioners, consisting of the Mayor and Inspector-General of Police—by virtue of their respective offices—and a municipal and a licensees' Commissioner, were appointed to carry out its provisions. In 1900, further legislation resulted in the Metropolitan Traffic Act, which

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placed the complete control of street traffic and the licensing of public vehicles, drivers, and conductors, under the Inspector-General of Police. The receipts during 1900, which were obtained from licenses (of which 4,120 were issued), fines, etc., amounted to £3,658, and the expenditure, up to 29th August, at which date the new Act came into force, £3,303.

Under the authority of the Fire Brigades Act of 1884, a Metropolitan Fire Brigade Board and thirty-three country boards have been established. The cost of maintaining the Metropolitan Brigade is contributed in equal amounts by the Government, the municipalities within the proclaimed area, and the fire insurance companies holding risks within these municipal districts. In 1900 the contributions consisted of £8,500 from the insurance offices interested, £8,500 from the Government, and £8,322 from the city and suburban municipalities. The amount of risk on the 31st December, 1900, was £66,427,642, showing an increase of nearly 14 per cent. in ten years, the total at the close of 1890 having been £58,415,945. Some of the country boards receive subsidies from the Government and the municipalities interested, but the insurance companies do not consider themselves bound by the Act to subscribe to the expenditure in connection with country boards. In addition to the boards constituted under the Act, several municipalities contribute to local fire brigades; and in a following chapter, under the head of Fire Insurance, will be found some particulars respecting the calls attended.

The Metropolitan Board of Water Supply and Sewerage was established in 1887, and that of the Hunter District in 1892; reference to their transactions will be found in subsequent pages.

Prior to 1889 the regulation of the port of Wollongong was subject to the Marine Board of New South Wales. In the year named, an Act was passed which transferred the control of the port to a trust composed of twelve Commissioners, who were empowered to improve, manage, and regulate the port. The revenue during 1894 was £6,507, and the expenditure, £7,988. The trust, which was the only one of its kind in the state, was dissolved in the latter part of 1895, when the Government took over the administration of the port.

Irrigation trusts were established at Wentworth, Hay, and Balranald, under special Acts passed in 1890, 1892, and 1893 respectively. It was provided in each case that the members of the Municipal Council for the time being should be the trustees, and that they should, with the permission of the Governor-in-Council, be authorised to borrow money for the purpose of tapping the neighbouring rivers, and of erecting plant and constructing works for the irrigation of a portion of the temporary common, which should be divided into lots and leased to suitable persons. The area brought under the Wentworth Trust consisted of 10,600 acres; and £1,000 was spent in preliminary expenses during 1894. Under a special clause of the Act, however, the trust has now been dissolved, and its powers assumed by the Government, who have constructed the necessary works. The land administered by the Hay Trust, originally comprising 12,847 acres, was thrown

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open in December, 1893, and at the end of 1894, 62 holdings, embracing an area of 778 acres, had been applied for. The principal crops planted were barley, wheat, and oats. An amending Act was passed in 1896, which remodelled the trust, the number of members being increased to six, three of whom are officers of the Public Service. The works were completed by an engineer appointed by the Government, and the area originally vested in the trustees was reduced to about 3,000 acres. The receipts during the year 1898 amounted to £1,363 8s. 3d., and the expenditure was £1,359 11s. 11d., leaving a credit balance at the close of the year of £3 16s. 4d. At the close of 1899, which is the latest date for which information is available, the accounts showed a debit balance of £180 5s. 1d. The principal receipts during the year were:—Water-rates, £476 6s. 7d.; and rent, £441 0s. 4d.; and the expenditure included £637 8s. 8d. on the pumping account, and £317 8s. on the general account. At Balranald an area of 1,000 acres has been surveyed, and several blocks of from 5 to 40 acres taken up. Pumping machinery has been erected, and works for the distribution of the water commenced. The trustees have petitioned for the dissolution of the trust, as at Wentworth.

## MUNICIPALITIES, 1899–1900.

Under the provisions of the Municipalities Act of 1867, which was consolidated with other Acts thirty years later, contiguous districts with an area of not more than 9 square miles, and a population of not less than 1,000, may be incorporated as boroughs; and districts of not more than 50 square miles, with a population of not less than 500, may be formed into municipal districts. Since the passing of this Act of 1867 the number of municipalities has steadily increased, the total in 1877 having been 76; in 1887, 122; and at the end of the municipal year 1899–1900, 189. Of these, 79 were boroughs and 110 municipal districts, the City of Sydney being classed with the former, as are the remainder of the 35 municipalities established under the previous Act of 1858. In the course of the municipal year, 1899–1900, five new incorporations were gazetted, viz.:—Bexley, Gladstone, Hillgrove, Warialda, and Wyalong. Since then, Brewarrina and Manilla have been proclaimed. Notwithstanding the relatively small area incorporated at the date of the census—March, 1901,—the population within the boundaries of these districts numbered 860,570—equal to an average density of 301 to the square mile, or 183 times that of the rest of the state.

In the City of Sydney there were, at the census of 1901, 18,303 inhabited houses, 666 uninhabited, and 89 in course of construction, giving a total of 19,058 dwellings. There were also 2,079 buildings of other descriptions. The inhabited dwellings were occupied by a population of 111,800. In the suburbs of Sydney there were 73,129 houses, in which 370,050 persons dwelt; while in the country municipalities

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there were 73,500 houses, occupied by 372,185 persons. In the unincorporated portion of the state there were 104,073 houses, inhabited by 499,370 persons.

The estimated value of land, houses, and other permanent improvements in the state may be approximately stated at £265,527,000, of which £124,541,800 is the value of ratable property in the incorporated districts. The value of unalienated Crown lands is not included in this estimate.

Authority is given by the Act to maintain the thoroughfares; to construct lighting, sewerage, and water supply works, and to levy the necessary rates in connection therewith; to make and enforce by-laws for the maintenance of the public health and the abatement of nuisances; to license vehicles plying for hire; and generally to take measures for the material and sanitary condition of the residents.

Since 1893, Councils have been empowered to purchase or lease any wharves, jetties, piers, etc., erected within the district, and to borrow money for the purpose of constructing such landing places.

The Sydney Corporation Act directs that valuers shall be appointed from time to time to assess improved property within the city at the fair average annual value, with an allowance for outgoings not exceeding 10 per cent., and the unimproved property at a maximum of 6 per cent. on its capital value, and on the value of such assessment a city rate not exceeding 2s. in the £ may be levied, exclusive of lighting. Appeal Courts are held annually. The latest assessment was made in 1896, supplementary estimates being made for each succeeding year. The rate stood at 16d. from 1891 to 1899, but was increased to 18d. for 1900, and 24d. for 1901. This rate is the only one at present in force. The Act, however, provides for a special local rate not exceeding 6d. in the £ of annual value, for any work which may be for the particular benefit of one locality, but then only if two-thirds of the ratepayers of such locality petition for the same. Occasional advantage of this power has been taken for street-watering, though not of late years.

In boroughs and municipal districts two persons are appointed every year to make a valuation of all municipal property, and the Councils are empowered to raise revenue by rates on the value so found, not exceeding 1s. in the £ for ordinary purposes, and the same amount for special purposes, with 6d. in addition for street watering. This provision has been in existence since 1867. The amount of each rate is calculated upon nine-tenths of the fair average annual rental of all buildings and cultivated lands, or lands which are, or have been, let for pastoral, mining, or other purposes, whether such lands or buildings are actually occupied or not; and upon 5 per cent. of the capital value of the fee-simple of all unimproved lands. In some cases lands are leased at merely nominal rentals, and attempts have been made to amend the law so that in no case shall the annual value of ratable property be computed at less than 5 per cent. of its capital value, but so far without success. The maximum general rate is now, in the

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majority of cases, found inadequate, and special grants of 5s. to 20s. per £ of general rates collected have been voted by Parliament from time to time, the three latest being one of 5s. on rates collected between the months of August, 1895, and August, 1896,; another of 2s. 6d. on collections between August, 1896, and August, 1897; and a further one of 2s. 6d. on collections during the twelve months ended the 4th February, 1901. None of these special grants applied to the city of Sydney. In addition to the special grants, a total sum of £46,827 was paid during the year 1899-1900, principally towards the maintenance of main roads, parks, &c., in municipalities.

During the municipal year 1899–1900 the maximum rate of 1s. in the £ was levied in all the suburban and country municipalities, with the exception of Cooma, which imposed 11d., Carcoar 10d., Darlington, Cudal, and Junee, which imposed 9d., and Lithgow, which imposed 6d. In Darlington the rate of 9d. included the cost of lighting the borough by gas, and in a few country municipalities the cost of street lighting was also paid out of the general rate. There were 111 municipalities where lighting rates were imposed, ranging from 3d. to 6d. in the £ for gas, 3d. to 6d. for electric light, and 1d. to 5d. for oil lamps. In only 31 municipalities, exclusive of those supplied by the Metropolitan Water and Sewerage Board, was there a water rate, viz., 1s. in the £, with five exceptions—one at 10d., two at 9d., and two at 8d. Manly was the only municipality which has erected waterworks under the Metropolitan Water and Sewerage Act; while Balranald and Hay were the only country municipalities which had taken advantage of the Country Towns Water and Sewerage Act, where a rate was not levied to defray the cost of the service, the supply being optional, and the charge made by meter. Other special rates, mostly for street-watering, were levied in some of the municipalities. Only two districts—Kempsey (¼d.) and Wollongong (½d.)—levied a library rate—reading facilities being afforded without charge by the local Council in many other towns, or, on payment, by the local School of Arts or Mechanics' Institute; while a fire brigade rate of 1d. was levied in Goulburn. Although authorised by the Act of 1867 to levy a rate for the purpose of providing the means of education for young children, the municipal bodies have not found it necessary to take advantage of this provision, owing to the excellent system of public instruction in force in the state.

Municipalities which avail themselves of the provisions of the Country Towns Water and Sewerage Act of 1880 are empowered to levy a rate for each service not exceeding a maximum of 5 per cent. on the assessed value of land and tenements, in addition to the ordinary municipal rates. On the 30th June, 1900, there were, including Richmond, 27 municipalities with water-works constructed under the provisions of the Act, while works were in progress at Berry, Cobar, Condobolin, Cootamundra (additional works), Junee, Moree, Mudgee, Parkes, Tamworth, and Wellington.

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The Noxious Trades and Cattle Slaughtering Act and the Dairies Supervision Act are administered by the Board of Health; but licensed premises are supervised by the Municipal Councils, who receive the fees. In unincorporated districts the administration of the Acts is entrusted to the police.

In order to aid municipalities in providing for the expenditure attending their inception, the Act provides for endowment being granted for a period of fifteen years. In each of the first five years after incorporation, every municipality is entitled to a sum equal to the whole amount actually raised by rates or assessments paid during the past half-year; in each of the next succeeding five years, a sum equal to one half; and in each of the next succeeding five years, a sum equal to one-fourth of the amount so received. After the expiry of these fifteen years the assistance which municipalities may demand from the Government ceases, and further aid from the state must be obtained by special grant. At the end of 1900 there were eighty-two municipalities entitled to statutory endowment.

The City Act of 1879 provided for an annual endowment by the State of £25,000 for a period of ten years. It also enacted that all fees for auctioneers' licenses within the city should be paid over by the Treasury to the City Council. The amount so received in 1895 was £2,137; in 1896, £3,438; in 1897, £2,247; in 1898, £1,409; in 1899, £223; and in 1900, nil. The auctioneers' licenses since 1898 became nominal when compared with former years, owing to a rearrangement in the payment of the fees to the Treasury. Although the Act authorised the raising of loans equal in amount to five years' revenue after the discontinuance of the endowment in 1889, yet it has been found convenient to obtain special Parliamentary sanction for each new loan. Particulars of all City loans will be found on page 681.

The 1867 Act gave the Council of any municipality authority to borrow on debentures, mortgage, or bond, hypothecating any land, personal estate, or annual revenue, actual or prospective, belonging to the municipality, provided that the amount borrowed did not exceed the estimated revenue for five years. In 1884 and 1888 Acts were passed empowering the Councils to contract special loans for the erection of gasworks and town halls, and in 1893 another amending Act, empowering the Councils to raise money to repay loans, became law. These Acts have now been consolidated.

About one-half of the municipalities are divided into wards, the number of which is regulated by the population; and every person, whether male or female, of the full age of twenty-one years, who, on the 7th day of January in any year, may be the occupier, lessee, or owner of any ratable property within any municipality, and who may have paid rates on the same prior to day of election, is entitled to vote. If the property be assessed at an annual value not exceeding £25, the ratepayer is entitled to one vote; if assessed at over £25 and not exceeding £75, to two votes; if over £75 and not exceeding £150, to three votes;

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and if over £150, to four votes. Voting is by ballot, as in Parliamentary elections; and by special enactment, both owner and tenant are entitled to vote in the city of Sydney, the ratepayer being allowed the cumulative vote (if any), the other one vote only. It is impossible to say, in the present state of the returns of the suburban and country municipalities, how many persons in the aggregate have the right to vote; but there were 402 aldermen in suburban, and 1,266 in country municipalities, which would give one alderman to 876 residents in the former, and one to 288 in the latter. In December, 1900, the number of electors in the eight wards of the city of Sydney was 31,131, being an average of 1,297 electors per alderman; twenty-four seats were contested, the votes polled being 15,910. In the other municipalities, in February, 1900, 281 seats were contested. The municipal year in the city of Sydney is from 1st January to 31st December, and the elections are held on the 1st of December in every second year. In all the other municipalities the year begins on the first Tuesday in February, on which day the nominations are made, polls for contested seats being taken within a week; one-third of the aldermen retire annually, and two auditors for the year are elected.

The following table shows the capital and annual values and the assessment of boroughs and municipal districts for the year 1900–1:—

| Division. | Capital Value of— | | Total Amount of General Rate Levied. | Fair Average Annual Value of— | |
|---|---|---|---|---|---|
| | Improved Land with Buildings thereon. | All Ratable Property. | | Improved Land with Buildings thereon. | All Ratable Property. |
| | £ | £ | £ | £ | £ |
| City of Sydney | 40,886,000 | 42,896,500 | 144,775 | 2,044,300 | 2,144,830 |
| Suburbs | 40,007,100 | 45,220,100 | 132,641 | 2,664,170 | 2,924,800 |
| Total, Metropolitan | 80,893,100 | 88,116,600 | 277,416 | 4,708,470 | 5,069,630 |
| Country | 33,189,000 | 36,425,200 | 127,286 | 2,673,910 | 2,835,720 |
| Grand Total | 114,082,100 | 124,541,800 | 404,702 | 7,382,380 | 7,905,350 |

As previously mentioned, a nominal annual value is frequently set upon unimproved land in order to avoid full rating, and in such cases no accurate estimate can be made of the real value of the property. It may be taken, therefore, that the figures, both in the preceding and the following table, suffer on this account. On the other hand, it has been found difficult to obtain valuations which show the total extent of the decline in the values of real estate since 1893, for it is not generally considered that the reduction of the capital value is in ratio to that of the annual value as indicated by the lower rating. It will be observed that, with the exception of the capital value of all ratable property in the city of Sydney, both the annual and capital values have increased



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since the previous assessments were made, and this improvement will probably be sustained during the municipal year 1901–2 :—

| Municipal Year. | Metropolitan Area. | | Country Municipalities. | Total. |
|---|---|---|---|---|
| | Sydney. | Suburbs. | | |
| | £ | £ | £ | £ |
| 1889–90—Annual value ... | 2,228,817 | 2,987,061 | 2,149,566 | 7,365,444 |
| Capital value..... | 44,576,340 | 45,635,138 | 30,073,617 | 120,285,095 |
| 1890–1—Annual value..... | 2,276,362 | 3,110,825 | 2,405,163 | 7,792,350 |
| Capital value..... | 45,527,240 | 48,208,834 | 33,475,972 | 127,212,046 |
| 1891–2—Annual value..... | 2,710,488 | 3,141,101 | 2,505,214 | 8,356,803 |
| Capital value..... | 51,237,600 | 47,987,210 | 34,784,948 | 134,009,758 |
| 1892–3—Annual value..... | 2,785,846 | 3,227,851 | 2,683,806 | 8,697,503 |
| Capital value..... | 55,716,900 | 51,174,200 | 37,386,300 | 144,277,400 |
| 1893–4—Annual value..... | 2,777,245 | 3,290,637 | 2,861,593 | 8,929,475 |
| Capital value..... | 55,550,000 | 54,511,000 | 40,877,000 | 150,938,000 |
| 1894–5—Annual value..... | 2,496,175 | 3,190,022 | 2,774,477 | 8,460,674 |
| Capital value..... | 55,470,000 | 53,481,000 | 42,275,000 | 151,226,000 |
| 1895–6—Annual value..... | 2,361,290 | 2,991,630 | 2,542,725 | 7,895,645 |
| Capital value..... | 47,225,800 | 49,486,400 | 39,509,900 | 136,202,100 |
| 1896–7—Annual value..... | 2,237,040 | 2,904,950 | 2,461,745 | 7,603,735 |
| Capital value..... | 44,740,700 | 46,686,400 | 36,072,600 | 127,499,700 |
| 1897–8—Annual value..... | 2,173,260 | 2,849,650 | 2,407,210 | 7,430,120 |
| Capital value..... | 43,465,200 | 44,999,200 | 34,322,600 | 122,787,060 |
| 1898–9—Annual value..... | 2,145,800 | 2,819,600 | 2,413,950 | 7,379,350 |
| Capital value..... | 43,159,900 | 43,767,700 | 33,698,000 | 120,625,600 |
| 1899–1900— Annual value | 2,135,700 | 2,859,500 | 2,416,900 | 7,412,100 |
| Capital value..... | 43,128,600 | 44,335,400 | 33,749,800 | 121,213,800 |
| 1900–1—Annual value..... | 2,144,830 | 2,924,800 | 2,835,720 | 7,905,350 |
| Capital value..... | 42,896,500 | 45,220,100 | 36,425,200 | 124,541,800 |

The increase shown in this table to have taken place between 1889 and 1894 is very considerable, the annual value having risen from £7,365,444 to £8,460,674, and the capital value from £120,285,095 to £151,226,000. Part of this increase was due to an additional number of districts incorporated; but when allowance is made for these it will still be found that the capital value increased by something like 43 per cent. During the last six years there has been a fall of about 17½ per cent. in the capital value, after taking into account the addition to the total by the incorporation of new municipalities.

The growth of the city and suburbs has been marvellous, and Sydney now stands as the second city of the British Empire, estimated by the annual value of its ratable property, Melbourne ranking fourth. The annual value of property in Sydney and suburbs, covering an area of 91,220 acres, was, in February, 1900, £5,069,630; while the annual value of Greater Melbourne, with an area of 162,660 acres, was £3,663,486. The following are the annual values of some of the principal cities of Great Britain at the latest available dates :—

| | £ | | £ | | £ |
|---|---|---|---|---|---|
| London (County)... | 36,574,812 | Edinburgh... | 2,555,756 | Bradford ..... | 1,149,735 |
| Glasgow ..... | 4,352,181 | Birmingham | 2,297,543 | Newcastle-on-Tyne | 1,129,743 |
| Manchester 3,019,152<br>Salford... 888,693 | 3,907,845 | Leeds ..... | 1,522,092 | Belfast ..... | 1,064,000 |
| | | Bristol ..... | 1,461,419 | Nottingham ... | 918,000 |
| Liverpool ..... | 3,839,479 | Sheffield..... | 1,268,893 | Hull ..... | 876,811 |

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The estimated capital value of all ratable property in municipalities for 1900–1 is shown in the following table:—

| Municipality. | Total Capital Value of Ratable Property. |
|---|---|
| | £ |
| Metropolitan— | |
| Sydney | 42,896,500 |
| Suburbs— | |
| Alexandria | 655,600 |
| Annandale | 827,200 |
| Ashfield | 2,121,100 |
| Balmain | 3,395,700 |
| *Bexley | ..... |
| Botany | 230,900 |
| Botany, North | 323,600 |
| Burwood | 1,348,100 |
| Camperdown | 608,800 |
| Canterbury | 659,700 |
| Concord | 492,700 |
| Darlington | 258,000 |
| Drummoyne | 316,500 |
| Enfield | 288,000 |
| Erskineville | 311,100 |
| Five Dock | 211,800 |
| Glebe | 1,906,500 |
| Hunter's Hill | 697,200 |
| Hurstville | 725,300 |
| Kogarah | 490,000 |
| Lane Cove | 403,500 |
| Leichhardt | 1,428,100 |
| Manly | 1,036,400 |
| Marrickville | 2,177,500 |
| Marsfield | 100,000 |
| Mosman | 1,085,100 |
| Newtown | 2,748,700 |
| North Sydney | 3,764,800 |
| Paddington | 2,064,100 |
| Petersham | 1,951,300 |
| Randwick | 1,582,600 |
| Redfern | 2,244,500 |
| Rockdale | 900,400 |
| Ryde | 523,700 |
| St. Peter's | 503,700 |
| Strathfield | 888,500 |
| Vaucluse | 187,600 |
| Waterloo | 651,000 |
| Waverley | 1,710,900 |
| Willoughby | 925,800 |
| Woollahra | 2,474,100 |
| Total, Suburbs £ | 45,220,100 |
| Total, Sydney | 42,896,500 |
| Total, Metropolitan £ | 88,116,600 |

| Municipality. | Total Capital Value of Ratable Property. |
|---|---|
| | £ |
| Country— | |
| Aberdeen | 62,600 |
| Adamstown | 152,700 |
| Albury | 483,000 |
| Armidale | 383,900 |
| Auburn | 415,100 |
| Ballina | 154,100 |
| Balranald | 67,900 |
| Bankstown | 228,000 |
| Bathurst | 931,000 |
| Bega | 292,100 |
| Berry | 308,100 |
| Bingara | 69,700 |
| Blayney | 148,300 |
| Bombala | 70,400 |
| Bourke | 323,200 |
| Bowral | 271,700 |
| Braidwood | 143,600 |
| Broken Hill | 3,103,900 |
| Broughton Vale | 65,900 |
| Burrowa | 118,800 |
| Cabramatta and Canley Vale | 113,600 |
| Camden | 139,700 |
| Campbelltown | 167,800 |
| Carcoar | 30,900 |
| Carrington | 175,200 |
| Casino | 124,800 |
| Castlereagh | 67,000 |
| Cobar | 207,000 |
| Condobolin | 147,900 |
| Cooma | 218,500 |
| Coonamble | 153,000 |
| Cootamundra | 211,700 |
| Coraki | 55,400 |
| Cowra | 176,900 |
| Cudal | 91,300 |
| Cudgegong | 323,700 |
| Deniliquin | 285,200 |
| Dubbo | 258,600 |
| Dundas | 168,500 |
| Dungog | 97,800 |
| Ermington & Rydalmere | 75,000 |
| Forbes | 340,200 |
| Gerringong | 202,600 |
| Gladstone | 52,900 |
| Glen Innes | 241,700 |
| Gosford | 56,100 |
| Goulburn | 945,400 |
| Grafton | 429,900 |
| Grafton, South | 70,700 |
| Granville | 691,700 |

* No information.

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| Municipality. | Total Capital Value of Rateable Property. | Municipality. | Total Capital Value of Rateable Property. |
|---|---|---|---|
| Country—*continued.* | £ | Country—*continued.* | £ |
| Grenfell | 104,300 | Parramatta | 1,245,300 |
| Greta | 72,600 | Peak Hill | 65,900 |
| Gulgong | 166,800 | Penrith | 283,300 |
| Gundagai | 107,500 | Picton | 96,000 |
| Gunnedah | 92,400 | Plattsburg | 190,700 |
| Hamilton | 618,500 | Port Macquarie | 73,700 |
| Hay | 304,900 | Prospect & Sherwood | 345,800 |
| Hill End | 28,700 | Queanbeyan | 74,000 |
| Hillgrove | 102,400 | Quirindi | 174,200 |
| Hillston | 128,100 | Raymond Terrace | 66,000 |
| Illawarra, Central | 791,500 | Richmond | 154,700 |
| Illawarra, North | 268,200 | Rookwood | 280,100 |
| Ingleburn | 51,600 | Scone | 82,500 |
| Inverell | 232,700 | Shellharbour | 262,600 |
| Jamberoo | 292,800 | Shoalhaven, South | 161,600 |
| Jerilderie | 96,000 | Silverton | 68,700 |
| Junee | 172,800 | Singleton | 223,500 |
| Katoomba | 209,000 | Singleton, South | 98,300 |
| Kempsey | 135,900 | Smithfield & Fairfield | 155,200 |
| Kiama | 137,700 | St. Mary's | 170,200 |
| Lambton | 211,100 | Stockton | 136,800 |
| Lambton, New | 109,000 | Tamworth | 422,200 |
| Lismore | 458,600 | Taree | 64,300 |
| Lithgow | 367,400 | Temora | 116,900 |
| Liverpool | 425,600 | Tenterfield | 154,300 |
| Maclean | 73,700 | Tumut | 102,200 |
| Maitland, East | 298,600 | Ulladulla | 299,900 |
| Maitland, West | 707,400 | Ulmarra | 163,000 |
| Merewether | 349,300 | Uralla | 55,800 |
| Mittagong | 139,600 | Wagga Wagga | 440,000 |
| Moama | 133,300 | Walcha | 60,100 |
| Molong | 100,400 | Wallendbeen | 150,100 |
| Moree | 183,300 | Wallsend | 212,900 |
| Morpeth | 99,000 | Waratah | 390,900 |
| Moruya | 122,200 | Wyalong | 153,400 |
| Moss Vale | 271,400 | Warren | 164,200 |
| Mudgee | 284,300 | Wellington | 167,500 |
| Mulgoa | 82,900 | Wentworth | 50,800 |
| Murrumburrah | 111,400 | Wickham | 476,600 |
| Murrurundi | 62,100 | Wilcannia | 109,300 |
| Muswellbrook | 156,500 | Windsor | 176,100 |
| Narrabri | 140,700 | Wingham | 35,200 |
| Narrabri, West | 40,800 | Wollongong | 432,900 |
| Narrandera | 257,000 | Warialda | * |
| Narromine | 64,700 | Yass | 197,300 |
| Newcastle | 2,556,600 | Young | 240,600 |
| Nowra | 183,900 | | |
| Nyngan | 94,500 | Total, Country ..... £ | 36,425,200 |
| Orange | 408,000 | Total, Metropolitan ... | 88,116,600 |
| Orange, East | 181,400 | | |
| Parkes | 275,800 | Grand Total ..... £ | 124,541,800 |

* No information.

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Mining property is subject to rating only in respect of the value of the surface area and of the buildings erected thereon; and in the case of Broken Hill and other mining municipalities this value is included in the amounts set down in the above table.

The total revenue collected by all the municipalities of the state during the year 1899–1900 amounted to £706,914, including the state endowments and grants of £46,827. The chief heads of revenue were as stated below. The grants for roads are shown separately, as they are almost exclusively for the maintenance of Government roads passing through the municipalities. In "other rates" are included the sanitary charges—where these are collected by the municipalities—although they are not levied at so much per £, but represent fees for direct services:—

| Division. | General rates. | Other rates. | Endowments and Grants. | Road Grants. | Other Revenue. | Total. |
|---|---|---|---|---|---|---|
| | £ | £ | £ | £ | £ | £ |
| Sydney—City | 140,764 | ..... | ..... | ..... | 61,058 | 201,822 |
| ,, Suburbs | 132,397 | 60,397 | 5,126 | 4,099 | 17,703 | 219,722 |
| Country | 106,873 | 74,136 | 22,971 | 14,631 | 66,759 | 285,370 |
| Total | 380,034 | 134,533 | 28,097 | 18,730 | 145,520 | 706,914 |

The general rates amounted to £380,034—1s. in the £ being the general rate of all municipalities except the city of Sydney, which levied 1s. 6d., while a few other exceptions will be found mentioned on page 671. No special rate is levied in the city, and in order to make the comparison complete, the cost of lighting and of street-watering should be deducted from the general rates. The amount spent for the former service during 1900 was £14,388, equal to about 1¾d. in the £; and on street-watering and sanding £3,008, equal to ¼d. in the £.

Other rates and charges—for lighting, water, and other services—are levied in many municipalities, and the receipts under this head amounted in 1899–1900 to £134,533. This sum does not include the proceeds of rates levied by the Metropolitan and Hunter District Water and Sewerage Boards, and the water supplies of Campbelltown, Liverpool, and Richmond, which, though actually local rates, are not collected by the municipalities affected by them. The amount received from the sources specified during 1899–1900 was £340,634, making, with the sum already mentioned, £475,177 as the total charge for these special services. The whole of the city of Sydney and suburbs is supplied with water by the Metropolitan Board, with the exception of Manly, where municipal waterworks have been erected.

The endowments and grants amounted to 6·22 per cent. of the total revenue, the sum being equivalent to 1s. 1¾d. per head of the total

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population within incorporated areas, or to 9·27 per cent., or 1s. 3¾d. per head, excluding the inhabitants of the city of Sydney. The proportion which each source of revenue bears to the whole varies considerably, as the following statement shows :—

| Division. | General Rates. | Other Rates. | Endowments and Grants. | Other Revenue. |
|---|---|---|---|---|
| | per cent. | per cent. | per cent. | per cent. |
| Sydney—City ..... | 69·75 | ..... | ..... | 30·25 |
| ,, Suburbs ..... | 60·25 | 27·49 | 4·20 | 8·06 |
| Country ..... .. | 37·45 | 25·98 | 13·17 | 23·40 |
| Total ..... | 53·76 | 19·03 | 6·62 | 20·59 |

It will be seen from the table on page 677 that the gross revenue of all municipalities, not including the State endowment and grants, was £660,087; if to this be added the revenue of the Metropolitan and Hunter District Water and Sewerage Boards, the total will reach £1,000,721. This may be taken as the whole burthen of local taxation, and is equivalent to about 24s. 6½d. per head of the population residing within the limits of incorporated districts, and to 12·66 per cent., or 2s. 6¼d. in the £, of the total annual value of all ratable property, as against an average of 4s. 5d. levied in England and Wales, namely, 5s. 8d. in the Metropolitan, and 4s. 1d. in other districts. These amounts, although considered low in the countries mentioned, do not by any means represent the total municipal taxation, as, in the provincial municipalities, large sums are contributed from the profits on the gas, water, and other undertakings chiefly controlled by these bodies. In New South Wales, however, as already mentioned, the Government contributes largely to the cost of maintaining the municipalities.

In connection with the municipal accounts of the state, it may here be explained that the returns furnished by the Councils are not so accurate as might be desired, and the amounts of revenue and expenditure given must be taken as the nearest approximation that can be arrived at. It is possible that in some cases items of account, such as transfers and cross entries, which do not really affect the revenue or expenditure, are included, while, on the other hand, items which ought to be included are left out. These errors are gradually being rectified, as the accounts are now checked in the Statistical Office in a systematic manner, so far as it is possible at the present time. In making comparisons with previous years, however, it will be well to bear this in mind.

The total expenditure during 1899–1900 by the various municipalities, including payments to sinking funds, amounted to £744,412, which was

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£37,498 more than the revenue receipts. The municipal expenditure may be grouped under the following heads :—

| Head of Expenditure. | | Amount. | Per cent. |
|---|---|---|---|
| | £ | £ | |
| Salaries and office expenses | 73,943 | | |
| Other expenditure on administration | 20,852 | | |
| | | 94,795 | 12·73 |
| General works, services, and improvements | | 302,363 | 40·62 |
| Lighting | | 77,657 | 10·43 |
| Water | | 24,623 | 3·31 |
| Sanitary and other expenditure not defrayed out of general rate and endowments | | 69,754 | 9·37 |
| Interest on loans and overdrafts | | 138,484 | 18·60 |
| Payments to sinking funds | | 13,558 | 1·82 |
| Additions to plant, furniture, &c. | | 2,327 | 0·32 |
| Miscellaneous | | 20,851 | 2·80 |
| Total expenditure | £ | 744,412 | 100·00 |

Valuers' and auditors' fees, legal expenses, and some other items which form part of the cost of administration, are entered in the municipal accounts under "Miscellaneous," of which amount they are estimated to make up one half. The totals of "Miscellaneous" have, therefore, been adjusted in the above and in the next three tables, in order to give a more correct statement of the proportion which each head bears to the whole. The total expenditure on sanitary services does not appear in the above table, as in many municipalities the fees are paid to the contractor.

The expenditure of the city of Sydney in 1901 reached the sum of £222,531, viz. :—

| Head of Expenditure. | | Amount. | Per cent. |
|---|---|---|---|
| | £ | £ | |
| Salaries and office expenses, including Mayor £1,000, and audit £550 | 13,039 | | |
| Other expenditure on administration | 1,192 | | |
| | | 14,231 | 6·40 |
| General works, services, and improvements | | 117,445 | 52·78 |
| Lighting | | 14,388 | 6·46 |
| Interest on loans | 62,436 | | |
| Interest on overdraft | 4,540 | | |
| | | 66,976 | 30·09 |
| Sinking funds | | 8,300 | 3·73 |
| Miscellaneous | | 1,191 | ·54 |
| Total expenditure | £ | 222,531 | 100·00 |

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The expenditure of the suburban boroughs and municipal districts for the year 1899–1900 was £240,249, which may be subdivided under the following heads :—

| Head of Expenditure. | | Amount. | Per cent. |
|---|---|---|---|
| | £ | £ | |
| Salaries and office expenses | 21,706 | | |
| Other expenditure on administration | 9,963 | | |
| | | 31,669 | 13·18 |
| General works, services, and improvements | | 95,094 | 39·58 |
| Lighting | | 32,381 | 13·48 |
| Water (Manly) | | 147 | 0·06 |
| Sanitary and other expenditure not defrayed out of general rate and endowments | | 30,268 | 12·60 |
| Interest on loans and overdrafts | | 36,395 | 15·15 |
| Payments to sinking funds | | 2,778 | 1·16 |
| Additions to plant, furniture, &c. | | 1,555 | 0·65 |
| Miscellaneous | | 9,962 | 4·14 |
| Total expenditure | £ | 240,249 | 100·00 |

The proportional cost of administering these municipalities was nearly three times that of the city; but when the smallness of some of the districts is considered, the cost of administration cannot be deemed unreasonably high.

The expenditure of the country municipalities of the state for the year was £281,632, which, divided under the same headings as those given for suburban municipalities, appears as follows :—

| Head of Expenditure. | | Amount. | Per cent. |
|---|---|---|---|
| | £ | £ | |
| Salaries and office expenses | 39,198 | | |
| Other expenditure on administration | 9,698 | | |
| | | 48,896 | 17·36 |
| General works, services, and improvements | | 89,824 | 31·89 |
| Lighting | | 30,888 | 10·97 |
| Water | | 24,476 | 8·69 |
| Sanitary and other expenditure not defrayed out of general rate and endowments | | 39,486 | 14·02 |
| Interest on loans and overdrafts | | 35,113 | 12·47 |
| Payments to sinking funds | | 2,480 | 0·88 |
| Additions to plant, furniture, &c. | | 772 | 0·28 |
| Miscellaneous | | 9,697 | 3·44 |
| Total expenditure | £ | 281,632 | 100·00 |

In proportion to the total expenditure, the administrative expenses of the country municipalities amounted to nearly 32 per cent. more than those of the suburban boroughs. This may be accounted for by the fact that the majority of the country boroughs and municipal districts, though large in area, have but scant population and little revenue, and the proportion of expenses required to defray salaries, etc., is naturally much larger than in the case of the smaller but more populous districts surrounding the metropolis.

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The total amount of loans raised during 1899–1900 was £75,403, and £97,134 was redeemed; these sums include additions to and reductions of secured overdrafts. The sinking funds were increased by £23,674, so that it would appear that the amount unprovided for was reduced by £45,405 in the course of the year. Most of the new loans were mere renewals, opportunity naturally being taken of the general reduction in the rates of interest to considerably reduce, when practicable, the annual liability in respect of interest charges. The total amount of loans, apart from the liability to the state under the Country Towns' Water and Sewerage Act, outstanding at the close of the year, was £2,731,334, and towards meeting this amount there was at the credit of the sinking funds a sum of £322,059, leaving £2,409,275 not provided for. The total amount authorised to be borrowed by the municipalities was greater than the amount actually raised, for in some cases the full amount was not issued, and in others the secured overdraft was less than the amount of securities lodged with the bank. Rates of interest ranged from 3½ per cent.—which was carried by £208,975—to 8 per cent., which, however, was only payable on £104; and the amount paid as interest on loans and overdrafts during the year was £138,484. Adding to the amount of loans the unsecured bank overdrafts, £229,660, on which rates vary from 4 to 8½ per cent., a total of interest-bearing indebtedness of £2,960,994 is found, at an average rate of interest of 4·68 per cent.—viz., 4·31 per cent. on the loans of the city of Sydney; 4·76 per cent. on those of the suburban municipalities; and 5·47 per cent. on those of the country municipalities. The total debt per head of population living in municipalities amounts to £3 15s. 1d., or, if allowance be made for sinking funds, £3 7s. 2d., while the yearly charge for interest is 3s. 4¾d. per head. These sums, viewed apart from the resources of the municipalities, are by no means formidable. The following are the outstanding loans of the city of Sydney at the close of 1900:—

| Where floated. | Fund. | Amount. | Rate. | When due. |
|---|---|---|---|---|
| | | £ | per cent. | |
| Sydney | City | 20,000 | 6 | *1901 |
| ,, | ,, | 10,000 | 6 | *1903 |
| ,, | ,, | 10,000 | 6 | *1904 |
| London | ,, | 60,000 | 4 | *1912 |
| Sydney | Cattle Sale-yards | 35,000 | 6 | 1902 |
| London | Streets Loan | 200,000 | 5 | 1904 |
| ,, | ,, | 100,000 | 4 | *1912 |
| Sydney | Town Hall Loan | 40,000 | 6 | 1901 |
| ,, | ,, ,, | 35,000 | 6 | 1906 |
| London | ,, ,, | 200,000 | 4 | *1912 |
| ,, | Moore-street Improvement | 250,000 | 4 | *1913 |
| ,, | Public Markets | 300,000 | 4 | *1919 |
| Sydney | ,, | 150,000 | 3½ | *1921 |
| | Total £ | 1,410,000 | | |

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Of the total debentures, £1,110,000 are renewable at maturity on the authority of the several Acts, the particular loans being denoted in the table by an asterisk. Sinking funds have been established in connection with most of the issues, the aggregate amount of which, at the end of 1900, was £311,086. In addition to the amounts quoted above, the city of Sydney was empowered in 1896 to raise £250,000 for the purpose of providing electric lighting plant. The outstanding loans and secured overdrafts of the other municipalities range from £67,400 to £104.

The subjoined statement indicates those municipalities which had contracted liabilities amounting to £5,000 and over at the beginning of 1900. Unsecured overdrafts have not been taken into account :—

| Municipality. | Amount. | Municipality. | Amount. | Municipality. | Amount. |
|---|---|---|---|---|---|
| Metropolitan— | £ | Metropolitan—*cont.* | £ | Country—*cont.* | £ |
| City of Sydney .. | 1,410,000 | Strathfield ..... | 6,500 | Lithgow ..... | 6,000 |
| Alexandria ..... | 17,000 | Waterloo ..... | 17,000 | Liverpool ..... | 12,000 |
| Annandale ..... | 13,833 | Waverley ..... | 52,000 | Maitland, East .. | 5,000 |
| Ashfield ..... | 15,300 | Willoughby .... | 11,547 | Maitland, West.. | 20,000 |
| Balmain ..... | 63,000 | Woollahra ..... | 7,600 | Merewether .... | 5,000 |
| Botany..... | 6,900 | Others (under £5,000) | 18,717 | Molong..... | 5,100 |
| Burwood..... | 25,000 | | | Mudgee ..... | 5,000 |
| | | Total, Metropolitan | 2,140,676 | | |
| Camperdown .... | 17,000 | | | Narrandera..... | 8,849 |
| Canterbury .... | 9,000 | | | Newcastle ..... | 50,400 |
| Drummoyne .... | 5,000 | Country— | | Orange ..... | 22,304 |
| Erskineville .... | 10,060 | Armidale..... | 18,150 | Parramatta..... | 56,600 |
| | | Bathurst ..... | 12,000 | | |
| Five Dock ..... | 8,256 | Bega..... | 8,000 | Penrith ..... | 23,000 |
| Glebe ..... | 35,738 | | | Prospect and Sherwood. | 6,000 |
| Hunters' Hill.... | 8,845 | Bourke..... | 7,500 | Tamworth ..... | 5,000 |
| Hurstville ..... | 6,000 | Bowral..... | 12,000 | | |
| | | Broken Hill .... | 5,000 | | |
| Leichhardt ..... | 38,625 | Cootamundra.... | 10,000 | Wagga Wagga .. | 19,096 |
| Manly ..... | 16,000 | | | Waratah ..... | 15,812 |
| Marrickville .... | 30,000 | Dubbo ..... | 15,000 | Wickham..... | 15,600 |
| Mosman ..... | 8,700 | Glen Innes ..... | 13,600 | Windsor ..... | 6,500 |
| | | Goulburn..... | 10,000 | | |
| Newtown..... | 36,000 | Grafton ..... | 5,100 | Wollongong .... | 8,000 |
| North Sydney .. | 61,675 | | | Yass ..... | 7,500 |
| Paddington .... | 67,400 | Granville..... | 16,000 | Young ..... | 12,207 |
| Petersham ..... | 18,500 | Hamilton..... | 7,800 | Others (under £5,000) | 94,940 |
| | | Illawarra, Central | 7,000 | | |
| Randwick ..... | 30,000 | Inverell ..... | 5,000 | | |
| Redfern ..... | 37,400 | | | Total, Country.. | 590,658 |
| Rockdale..... | 16,140 | Katoomba ..... | 5,000 | | |
| Ryde ..... | 6,000 | Lambton..... | 11,600 | | |
| St. Peter's ..... | 10,900 | Lismore ..... | 12,000 | Grand Total ..£ | 2,731,334 |

Of the total amount, £1,344,004 was raised in London ; £1,368,481 in Sydney or locally ; and £18,849 in Victoria. If allowance be made for the £1,110,000 raised in London by the City Council, it will be seen that the other municipal authorities have relied chiefly on the markets of the state to subscribe to their loan issues.

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Against its debt of £1,588,233, which includes £144,652, the amount of the net overdraft at the end of 1900, the city of Sydney possessed assets approximately amounting to £3,533,669, made up as follows :—

| | £ |
|---|---|
| Value of made roads and streets, not including value of land.. | 1,476,600 |
| Land, Buildings, &c | 1,581,773 |
| Sale-yards | 75,000 |
| Plant, stores, and materials | 34,637 |
| Sinking funds | 311,086 |
| Outstanding rates | 11,964 |
| Sundry debtors and cash in hand | 1,627 |
| Loan account balances | 40,982 |
| Total | £3,533,669 |

Taking the assets at £3,533,669, the indebtedness of the city of Sydney would amount to about 45 per cent. of the total assets.

In addition to the current loans and overdrafts secured by mortgage, etc., to the amount of £1,321,334, shown in the table on page 682, the suburban and country municipalities were, on the 6th February, 1900, also indebted for unsecured bank overdrafts to the amount of £85,008, and on contracts, etc., to a further amount of £61,587, making a current indebtedness of £1,467,929, or nearly six times the amount of the general rate levied in 1900–1 ; but an annual sum of £17,960 in the aggregate was also payable by twenty-seven municipalities for waterworks, of which a list will be found on page 685. The sum of £496,616 set down below is the value of the works, on which this annual liability is payable.

The assets of the suburban and country municipalities on the 6th February, 1900, were as follow :—

| | £ |
|---|---|
| Roads and streets, not including land | 4,098,300 |
| Town Halls, other buildings, and land | 470,124 |
| Water-works (constructed by Government) £496,616 | ..... |
| Water-works (constructed without Government aid) | 71,407 |
| Gas-works and electric-lighting plant | 214,348 |
| Sale-yards | 23,871 |
| Wharves | 27,383 |
| Sewerage | 71,913 |
| Plant, stores, furniture, and material | 64,960 |
| Sinking funds | 10,973 |
| Fixed deposits and current bank balances | 51,369 |
| Outstanding general and other rates, etc. | 175,186 |
| Government endowments and grants accrued | 12,031 |
| Sundry accounts due | 15,584 |
| Cash in hand | 1,573 |
| Total | £5,309,022 |

The large amount of outstanding rates, £175,186, is in great part made up of accumulations on unimproved properties, the owners of which cannot be traced.

The total indebtedness of the incorporated districts outside the boundaries of the city of Sydney would, apart from the annual liability for

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waterworks, appear to be only 27·71 per cent. of the total assets. This consideration of municipalities as a whole, however, does not reveal the fact that some are struggling under a load of debt which is well nigh insupportable.

The amalgamation of the forty-one metropolitan municipalities is a question which has lately attracted some attention, and various schemes have been suggested, some for the unification of these municipalities under one central administration, leaving, perhaps, certain matters still to local authorities, the number of which would be reduced; and others merely proposing to unite two or three adjacent municipalities. It is not probable that any great reduction in the cost of administration would be effected by such a unification, as the salaries at present paid are not on a lavish scale; but there is no doubt that increased efficiency would be attained, and the expenditure on works and improvements reduced. Interest-charges on loans would certainly be considerably lessened; for, notwithstanding the reduction in rates during the last few years, a further saving of £3,500 would result if the £763,805 owing by the suburban municipalities carried the average rate paid by the city of Sydney; and in view of the increased importance and more economical working of a Greater Sydney, a further reduction in the rates of future loans, either renewals or for fresh enterprises, might reasonably be expected.

The Municipal Association of New South Wales was formed in 1883, to watch over and protect the interests of the municipal bodies. In the first year there were 63 Councils subscribing, while in 1900 the number was 145. The Mayor of Sydney is *ex officio* president of the Association. Advice is given to, and legal opinions obtained for the members on debatable points arising under the Municipal Act, and a general meeting is held annually in Sydney, usually in the month of September.

### Water Supply for Country Towns.

The Country Towns' Water Supply and Sewerage Act of 1880 was passed with the object of assisting municipalities to construct general systems of water supply and sewerage. To the end of November, 1901, 36 Municipal Councils, including Richmond, had availed themselves of the privileges offered as regards the former service. With respect to sewerage, however, none of the Councils had profited by the provisions of the Act; but those of Lismore and Hay had taken steps in that direction, having arranged for complete sewerage systems. The amount required for carrying out the works is advanced by the State. The municipality, however, has the option of supervising and constructing the works, failing which the Government undertakes these duties. Under the original Act, the sum advanced was to be repaid by instalments, with interest at the rate of 4 per cent. on the unpaid balances, each annual instalment to be equal to 6 per cent. of the total cost, and the first payment to be made twelve months after the date of the transfer of the works to the municipality; but as it was found that the municipalities

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which had contracted liabilities in respect of water supply works were unable to comply with these conditions, the Government, in 1894, passed an amending Act which granted them more favourable terms, the rate of interest being reduced to 3½ per cent., and the yearly repayments fixed at a maximum of 100.

The following is a statement of the works completed and handed over by the Government at the 31st December, 1900, with the amounts expended, and the sums payable annually for the period of one hundred years, the first repayments having become due within twelve months of various dates ranging from the 31st December, 1892, to the 31st December, 1900. In the calculation of these repayments, the interest on the expenditure has been added, and any payments by the Councils, as well as sums remitted under the authority of the Act, have been deducted :—

| Municipality. | Total Expenditure by the State. | Amount Payable Annually. | Municipality. | Total Expenditure by the State. | Amount Payable Annually. |
|---|---|---|---|---|---|
| | £ | £ | | £ | £ |
| Manly | 37,820 | 1,368 | Lismore | 9,396 | 362 |
| Albury | 45,186 | 1,483 | Lithgow | 12,068 | 461 |
| Armidale | 36,816 | 1,462 | Moama | 6,525 | 275 |
| Balranald | 7,963 | 217 | Moss Vale | 16,349 | 470 |
| Bathurst | 53,876 | 1,989 | Nowra | 11,532 | 455 |
| Bourke | 14,336 | 486 | Nyngan | 10,731 | 325 |
| Coonamble | 6,346 | 244 | Orange | 30,942 | 1,182 |
| Cootamundra | 11,645 | 394 | Picton | 15,279 | 577 |
| Denliquin | 18,168 | 668 | Wagga Wagga | 37,272 | 1,392 |
| Dubbo | 13,986 | 551 | Warren | 3,837 | 144 |
| Forbes | 8,013 | 288 | Wentworth | 9,665 | 145 |
| Goulburn | 55,184 | 1,989 | Wilcannia | 8,000 | 303 |
| Hay | 7,072 | 278 | | | |
| Jerilderie | 6,405 | 196 | Total | 501,277 | 17,960 |
| Kiama | 6,865 | 256 | | | |

The Manly works are included in this table, as, although they were constructed under the Metropolitan Water and Sewerage Act of 1880, the more favourable terms of the Country Towns Acts were granted in this case. In the case of Coonamble, a sum of £53 11s. is payable annually for water supplied by a Government artesian bore.

At Forbes, Hay, and Wilcannia, the works were constructed by the municipal authorities, and the expenditure shown in the table is not the actual cost of the works, but the Government valuation. In addition to those mentioned above, works have been constructed at Condobolin, Cootamundra, Junee, Parkes, and Tamworth, but these have not yet been handed over to the Councils; while at Berry, Cobar, Moree, Mudgee, and Wellington the works are not yet complete. The following table shows the expenditure on all works not handed over :—

| Municipality. | Expenditure to 31st December, 1900. | Municipality. | Expenditure to 31st December, 1900. |
|---|---|---|---|
| | £ | | £ |
| Berry | 2,963 | Mudgee | 5,982 |
| Cobar | 20,250 | Parkes | 32,092 |
| Condobolin | 5,595 | Tamworth | 44,669 |
| *Cootamundra | 7,724 | Wellington | 6,919 |
| Junee | 43,014 | | |
| Moree | 7,258 | Total | 176,466 |

* Additions to existing works.

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Nine Municipal Councils have constructed works out of their own resources, but the Mudgee Council has now arranged for the construction of new works by the Government. The estimated values of the works constructed by the municipalities on the 6th February, 1900, were as follow :—

| Municipality. | Estimated value. | Municipality. | Estimated value. |
|---|---|---|---|
| | £ | | £ |
| Lismore | 220 | Silverton | 250 |
| Mudgee | 1,200 | Singleton | 600 |
| Narrandera | 8,600 | Windsor | 6,500 |
| Nowra | 37 | | |
| Parramatta | 45,000 | Total .. £ | 71,407 |
| Penrith | 9,060 | | |

The water supply works of Broken Hill and Silverton were constructed by a private company under a special Act of Parliament passed in 1888.

## Sewerage Works.

As previously mentioned, only two Municipal Councils have made any move towards taking advantage of the Act providing for the carrying out of sewerage works in country towns. The Councils in question are those of Lismore and Hay, and they have taken the steps necessary to ensure the respective towns being provided with complete sewerage systems. It will be seen from the table given below that sewerage systems are in existence in several places ; but these have been constructed altogether apart from the Act, and, with few exceptions, the operations have been on a minor scale. The general system of sewerage which is now being carried out in the metropolitan area will supersede the isolated systems of some of the suburban districts, and some of the sewers already constructed will eventually form part of the general scheme. The Metropolitan Board has already taken over part of the sewerage constructed by the city of Sydney and the Municipalities of Ashfield, Balmain, Darlington, North Sydney, Redfern, and Waterloo. The cost of sewerage not taken over was as follows:—

| Municipality. | Length. | Cost of Construction. | Municipality. | Length. | Cost of Construction. |
|---|---|---|---|---|---|
| | ms. chs. | £ | | ms. chs. | £ |
| Annandale | 3 7 | 2,334 | Hay | 1 0 | 1,000 |
| Ashfield | 1 16 | 6,094 | Lismore | 0 2 | 100 |
| Balmain | 2 0 | 2,000 | Maitland, West | 3 40 | 2,000 |
| Burwood | 0 56 | 2,000 | Murrumburrah | 0 6 | 160 |
| Camperdown | .... | 5,161 | Newcastle | .... | 18,251 |
| Glebe | 12 19 | 11,780 | Richmond | 0 18 | 1,000 |
| Leichhardt | .... | 4,500 | Singleton | 1 0 | 1,000 |
| North Sydney | 7 30 | 4,850 | Stockton | .... | 182 |
| Petersham | 1 16 | 4,752 | Wagga Wagga | 0 33 | 534 |
| Strathfield | .... | 850 | Wentworth | 0 20 | 165 |
| Willoughby | .... | 100 | Wickham | 0 60 | 700 |
| Casino | 0 35 | 900 | | | |
| Coonamble | 0 8 | 80 | Total | £ | 71,913 |
| Goulburn | .... | 1,420 | | | |

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### Gas and Electric Lighting Works.

The Municipalities Act authorises the construction of works for public lighting, by gas or otherwise, and gives the power to provide private consumers with gas; but as regards electric lighting this cannot be done without the authority of a special Act. The following statement shows the municipalities which have constructed gas-works, and the value of the same in February, 1900 :—

| Municipality. | Value of Works. | Municipality. | Value of Works. |
|---|---|---|---|
| | £ | | £ |
| Armidale | 12,000 | Maitland, East | 10,000 |
| Bathurst | 20,802 | Molong | 4,500 |
| Bega | 8,000 | Muswellbrook | 4,500 |
| Bowral | 7,000 | Orange | 13,000 |
| Cootamundra | 7,487 | Wagga Wagga | 17,923 |
| Dubbo | 10,000 | Waratah | 9,388 |
| Glen Innes | 6,806 | Yass | 7,442 |
| Lismore | 7,500 | | |
| Lithgow | 6,500 | | |
| Liverpool | 7,000 | Total £ | 159,848 |

Similar information is given below of municipalities which have erected electric-lighting plant :—

| Municipality. | Value of Plant. | Municipality. | Value of Plant. |
|---|---|---|---|
| | £ | | £ |
| Redfern | 19,000 | Tamworth | 3,000 |
| Lambton | 7,000 | Young | 8,500 |
| Newcastle | 8,000 | | |
| Penrith | 9,000 | Total £ | 54,500 |

As already mentioned, the city of Sydney has obtained powers to erect an electric-lighting plant, and to raise a loan of £250,000 for this purpose. At the end of 1900, however, no decision had been arrived at as to the best way of carrying out the city lighting by electricity. The following municipalities are supplied with electric light by private companies :—Canterbury (part of streets), Enfield, Broken Hill (houses only), and Moss Vale.

### Roads and Streets.

The length of streets and lanes within the boundaries of the city of Sydney, at the end of 1900, was 115 miles. Practically all the roadways were formed, kerbed, and either wood-blocked or metalled; the area laid down of the former material was 73 acres, exclusive of 20,000 square yards of wood-blocking laid by the Government at Circular Quay. The value to the city of these streets was estimated at £1,476,600, which sum included £155,000 for footpaths, viz. :—Asphalted, £60,000; and flagged, £95,000. Throughout the suburbs the extent of roads and streets was about 1,442 miles, of which 773 miles were metalled, ballasted, or gravelled, 214 miles formed only, 98 miles cleared and drained, 117 miles cleared only, and 240 miles natural surface; and the

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approximate value of these roadways, with footpaths, culverts, bridges, and similar works, may be set down at £2,123,600. In the other municipalities there were 1,517 miles of metalled, ballasted, or gravelled roads and streets, 1,107 formed only, 446 miles cleared and drained, 1,090 cleared only, and 1,713 miles natural surface; in all 5,873 miles, the value of these improvements being estimated at £1,974,700, which, however, can only be regarded as an approximate sum. Government roads have, as far as could be ascertained, been excluded from these totals; nor is the value of land occupied taken into account, but the latter may be set down at £3,402,100.

### Metropolitan Water Supply and Sewerage.

With the rapid aggregation of the population in the metropolitan area came the necessity of establishing a system of water supply and sewerage equal to the needs of a great city. Prior to 1887 the control of the water supply of the city and suburbs was in the hands of the City Corporation, and the supply was totally inadequate to meet the demands upon it, while the sewerage system was highly objectionable and inefficient. Several of the suburban Councils had also constructed local systems, as already mentioned.

In 1867 a Royal Commission was appointed to investigate and report upon proposals for supplying water to the city and suburbs. Two years later, after various projects had been considered, the Commissioners submitted a report recommending the adoption of the "Upper Nepean scheme." A second Royal Commission was appointed in 1875 to report on a sewerage scheme for the metropolis. The report of this Commission was presented in 1877, and forms the basis of the system now being carried out. As much controversy was evoked by the recommendations of these Commissions, the Government obtained the services of an engineer from England, and, after much patient investigation, he approved of the systems proposed and recommended them for adoption, and an Act was passed in 1880 to authorise the works being carried out. The first contract in connection with the construction of water supply works was undertaken in November, 1879, and that of sewerage in August, 1880.

In March, 1888, the water supply works had so far advanced that the Government passed an Act establishing a Board of Administration, under the title of the Metropolitan Board of Water Supply and Sewerage, to regulate the water supply and sewerage services in the county of Cumberland, including those under the control of the City Council. The management of the former service was transferred to the Board in May, 1888, and of the latter in September, 1889. The total length of water mains taken over was 355 miles, while on the 30th June, 1901, this had increased to 1,119 miles, exclusive of trunk mains. There were 70¼ miles of sewers in 1889, lengthened to 516 miles in 1901. The Board consists of seven members, three of whom are appointed by the Government, two

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by the City Council, and two by the suburban and country municipalities within the county of Cumberland which are supplied with water. The Board is subject to the general control of the Minister for Works—a provision considered necessary, as the Government were advancing the whole of the money for the construction of the works, the amount so advanced constituting part of the public debt of the State.

## Metropolitan Water Supply.

As early as 1850 authority was given by the Legislative Council to the City Corporation for the construction of water and sewerage works, and a system of water supply from the Lachlan, Bunnerong, and Botany Swamps was adopted. By this scheme the waters of the stream draining these swamps were intercepted at a point near the shore of Botany Bay. A pumping plant was erected here, and the water raised to Crown-street Reservoir, 141 feet above the level of the sea; thence the water was pumped into Paddington Reservoir, at an elevation of 214 feet above sea-level; and to Woollahra, 282 feet above sea-level. The cost of these works was £1,719,565. This system has since been superseded by what is known as the "Upper Nepean scheme" already referred to, which was designed and carried out by the late Mr. E. O. Moriarty, M.I.C.E. The works were made available in 1888, and have been found ample to provide a constant supply for the wants of the increasing population of Sydney and suburbs.

The sources of supply are the waters of the Nepean, Cataract, and Cordeaux Rivers, draining an area of 354 square miles, a catchment enjoying a copious and regular rainfall. The off-take works are built at a height of 437 feet above the level of the sea, and the water flows through a series of conduits—partly tunnel, partly open canal, and in places wrought-iron aqueducts—to Prospect Reservoir, a distance of 40 miles from the farthest source of supply. Here a storage reservoir has been constructed, covering an area, when full, of 1,297 acres, and capable of holding about 11,392,713,000 gallons, of which 7,324,343,000 are available for supply by gravitation. The top water-level is 195 feet above sea-level. The dam is 7,300 feet long, 30 feet wide on top, and is carried to a maximum height of 85·67 feet; it contains some 2,591,950 cubic yards of earthwork, and its water face is covered with heavy bluestone pitching. The conduits above Prospect Reservoir have a capacity of 150 million gallons per day, and for 10 miles below this reservoir the capacity of the canals and pipes equals a maximum of 50 million gallons, while for the last 11 miles the pipes have a capacity of 17·5 million gallons daily. In this work there are:—

| | |
|---|---|
| Tunnels | 11⅝ miles. |
| Open canals | 33¼ ,, |
| Wrought-iron pipes, 8 ft., 7 ft. 6 in., and 6 ft. diameter | 5⅜ ,, |
| Cast-iron pipes, 48 in., 42 in., and 30 in. diameter | 13 ,, |
| Total | 63¼ miles. |



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From Prospect the water flows 5 miles by open canal to the Pipe Head Basin, thence 5 miles by 6-feet wrought-iron pipes to the Potts' Hill Balance Reservoir, which has a capacity of 100 million gallons, and covers 24½ acres. This reservoir was designed to tide over any interruption in the supply from Prospect, as well as to prevent fluctuation at the head of pressure. The duplication of the 6-ft. pipe between the Basin and Potts' Hill, at a cost of £70,205, was recommended, in July, 1897, by the Public Works Committee, as also the raising of the sides of the canal between Prospect and the Basin, thus increasing its capacity to fifty-three and a half million gallons per day, at a cost of £39,112. At Potts' Hill the water passes through a series of copper-gauze screens, and is then conducted by two 48-in. mains into Sydney. At Lewisham a bifurcation takes place in one of these mains; one branch supplying the Petersham Reservoir, the other continuing to Crown-street. The Petersham Reservoir is 166 feet above high-water mark, is built of brick, and has a capacity of 2,157,000 gallons. The new 48-in. main, laid in 1893, from Potts' Hill direct to Crown-street, is worked alternately with the old. These two trunk mains are connected at Petersham as an intermediate spot. The Crown-street Reservoir is 21 miles from Prospect. It is of brick and contains 3¼ million gallons, the top water-level being 141 feet above high-water mark. Owing to the topographical configuration of the reticulated area, pumping for the purpose of supplying the upper zones has largely to be resorted to, and no less than 4,721¼ million gallons, or nearly 59·93 per cent. of the whole supply, were thus raised during the twelve months ended June, 1901. At Crown-street is situated the main pumping station, where are erected three sets of compound high-duty pumping engines, viz., two Worthingtons, and one designed and erected by the Mort's Dock and Engineering Company. No. 1 Worthington is capable of raising 400,000 gallons per hour to the Centennial Park Reservoir, which is 104 feet above Crown-street No. 2 Worthington can raise 210,000 gallons per hour to the Woollahra Reservoir, 140 feet above Crown-street, and of 1,000,000 gallons capacity; or, if necessary, 200,000 gallons per hour to the Waverley Reservoir, which is 220 feet above the level of the pumps, and has a capacity of 1,087,000 gallons. No. 3 (Mort's) is capable of raising 100,000 gallons per hour to the Waverley tanks. A new covered reservoir, of a capacity of 17,000,000 gallons, has been constructed in the Centennial Park, at a height of 245 feet, for the purpose of ensuring a larger bulk of water within the city limits. This, it is believed, is the largest service tank in the Southern hemisphere. At Ashfield there is a 100,000 gallon wrought-iron tank at an elevation of 223 feet above sea-level. This tank is fed from the Woollahra Reservoir by the Petersham trunk main, and supplies the higher parts of the district.

North Sydney receives its supply from Potts' Hill, *vid* Ryde, where there is a reservoir containing 2,116,000 gallons, from which the water is pumped into a million gallon tank at Ryde village, 234 feet above sea-level, and, by a continuation of the same main, into a pair of tanks, of

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a joint capacity of 3,000,000 gallons, at Chatswood, at an elevation of 370 feet above high-water mark. A small pumping plant has been erected at Chatswood, and fills two tanks of 1,000,000 and 40,000 gallons' capacity at Wahroongah, 7½ miles distant, at an elevation of 720 feet above sea-level; and from Wahroongah the water flows as far as Hornsby, 13 miles to the north-west of Port Jackson. A concrete reservoir of a capacity of 500,000 gallons has been constructed at Pymble. From this reservoir the districts between Pymble and Chatswood are served, thus reducing the abnormal pressure by reason of the supply being from so great a height as Wahroongah.

The districts of Campbelltown and Liverpool are supplied from the main canal by gravitation. At the latter place, a 4,000,000-gallon earthen reservoir has been constructed, for the purpose of tiding over any interruption in the flow from the canal. Other districts lying nearer Sydney, as Smithfield, Granville, Auburn, and Rookwood, are also supplied *en route;* and at Smithfield there is a 100,000-gallon concrete tank, the top water of which is 175 feet above sea-level. At Penshurst there are two tanks 270 feet above sea-level, one of which has a capacity of 1,000,000 gallons, and the other of 200,000 gallons. These tanks are filled by a Worthington pumping plant at Carlton, which has a raising power of 30,000 gallons per hour. Works for the supply of water to the town of Camden, from a point on the canal near Kenny Hill, were completed in October, 1899, and the scheme has proved satisfactory. The farthest point south so far reached by the reticulation is Sandringham, distant 10 miles from Redfern Railway Station; so that the Sydney water supply covers a range of 23 miles from north to south. The length of the mains, exclusive of trunk mains and reticulations which have become obsolete, is 1,119 miles.

The total capacity of the service reservoirs is as under :—

| | |
|---|---|
| South Sydney ..... | 129,994,000 gallons. |
| North Sydney ..... | 7,656,000 ,, |
| Total ..... | 137,650,000 ,, |

The weekly chemical analysis made by the Government Analyst continues to show that the water is perfectly suitable for all purposes of a town water supply.

The number of houses connected with the metropolitan water supply on the 30th June, 1901, was 98,298, and the number of persons supplied, 491,000. The average daily consumption during the year ended June, 1901, was 21,582,677 gallons, equivalent to 219 gallons per house, and to 43·99 gallons per head of population supplied. The total amount supplied during the year was no less than 7,877½ million gallons, exclusive of about 88½ million gallons, valued at £4,454, supplied free of charge under meterage to public hospitals, charitable institutions, and parks, while about 312½ million gallons, valued at £15,625, were also supplied free for street-watering and, in cases where no sewers were available, for gutter-flushing.

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The rate levied for water is 7d. in the £ in the Metropolitan district, with the exception of the northernmost suburbs beyond Chatswood, where the rate is 1s., while 1s. is the charge for 1,000 gallons by meter, with 1s. 6d. beyond Chatswood. The revenue from the Water Service Branch during the year ended 30th June, 1901, was £203,348, and the expenditure £201,603, of which £32,469 was for maintenance, £16,801 for management, £149,131 for interest on loans, and £3,202 depreciation account. These figures show an increase of £7,732 in the revenue as compared with 1900.

After allowing for loans and advances from Government to the amount of £4,220,552; the City Council Water Fund and Debentures, £455,927; rates overpaid, £155; and other liabilities, £75,247; and on the other side, for the value of the water supply works, lands, and buildings, reservoirs, and pumping plant, £4,677,217; the amount due for rates, etc., £27,259; for the value of stores, working plant, and tools, £36,559; and for other assets, £14,203,—the balance-sheet on the 30th June, 1901, showed a sum of £3,357 at the credit of the revenue account. The net revenue for the twelve months ended June, 1901, showed a return of 3·29 per cent. on the actual capital debt of £4,676,479. The rates of interest payable are 3·5 per cent. on the loan expenditure by the State, and from 4 to 6 per cent. on municipal debentures taken over. The Board, however, do not debit their account with interest on the City Council Water Fund, £375,927, on the ground that this expenditure was made from rates contributed by the citizens, and they, therefore, show a return of 3·58 per cent. for the year 1900–01 instead of 3·29 per cent. set down below. The rates for the other years differ for the same reason. The Royal Commission which investigated the affairs of the Board in 1897 recommended that the Government should definitely determine the amount of the capital debt on which interest should be set aside; but up to February, 1901, this had not been carried into effect.

The subjoined statement gives the transactions for each year during which the Board was in operation:—

| Year. | Capital Cost. | | Rates struck. | Expenditure (including interest). | Houses supplied. | Estimated Population served. | Supply. | |
|---|---|---|---|---|---|---|---|---|
| | Amount. | Return per cent. | | | | | Daily (average). | Total for period. |
| | £ | | £ | £ | No. | No. | gallons. | gallons. |
| 1888 | 3,004,557 | 1·68 | 125,486 | 83,432 | 61,718 | 296,200 | 8,144,000 | 2,972,622,000 |
| 1889 | 3,088,068 | 3·31 | 138,923 | 144,642 | 67,924 | 326,000 | 8,820,000 | 3,219,244,000 |
| 1890 | 3,139,080 | 3·48 | 145,990 | 147,310 | 71,501 | 343,200 | 8,486,000 | 3,097,402,000 |
| 1891 | 3,206,049 | 3·85 | 165,831 | 154,154 | 76,093 | 365,200 | 9,540,000 | 3,482,238,000 |
| 1892 | 3,394,581 | 3·26 | 155,886 | 161,825 | 78,926 | 378,900 | 12,129,000 | 4,439,274,000 |
| 1893 | 3,409,721 | 3·52 | 157,427 | 158,840 | 81,288 | 390,200 | 12,534,000 | 4,574,783,000 |
| 1894 | 3,440,014 | 3·54 | 161,167 | 160,706 | 83,621 | 401,400 | 13,739,000 | 5,014,689,000 |
| *1895 | 4,078,979 | 1·60 | 85,364 | 91,852 | .... | .... | } 16,645,000 | 9,194,922,000 |
| 1895–6 | 4,154,261 | 3·21 | 174,357 | 182,075 | 85,059 | 408,300 | | |
| 1896–7 | 4,244,550 | 3·11 | 175,984 | 188,221 | 87,190 | 418,500 | 17,659,000 | 6,445,655,000 |
| 1897–8 | 4,327,543 | 3·01 | 178,881 | 196,264 | 89,749 | 434,800 | 18,284,000 | 6,673,514,000 |
| 1898–9 | 4,398,945 | 3·34 | 194,332 | 190,048 | 92,370 | 450,500 | 18,795,000 | 6,860,146,000 |
| 1899–1900 | 4,541,499 | 3·27 | 195,616 | 195,543 | 95,192 | 478,000 | 19,886,000 | 7,258,373,000 |
| 1900–1901 | 4,676,479 | 3·29 | 203,348 | 201,603 | 98,298 | 491,000 | 21,583,000 | 7,877,677,000 |

*Six months ended 30th June.

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The amounts of the capital debt, 1895–6, 1896–7, 1897–8, 1898–9, 1899–1900, and 1900–01 do not include £32,341, the proportion of the cost of offices chargeable to the Water Supply Branch, as the Board charge instead working expenses with rent on the new offices.

As already stated, the average daily supply of water to persons in the metropolitan district during the year ended June, 1901, was 43·99 gallons. During the eighteen months ended June, 1896, the supply averaged 37·39 gallons; in the succeeding twelve months, 39·02 gallons. For the years ended June, 1898, 1899, and 1900 the daily average was 39·52 gallons, 39·80 gallons, and 41·30 gallons respectively.

## The Hunter District Water Supply.

The water supply works of the Lower Hunter were constructed by the Government, under the provisions of the Country Towns' Water Supply and Sewerage Act of 1880. In 1892, under the authority of a special Act, a Board was established on similar lines to those of the Metropolitan Water and Sewerage Board, the number of members also being the same—three being nominated by the Governor, one elected by the Municipal Council of Newcastle, two by the adjacent municipalities, and one by the municipalities of East and West Maitland and Morpeth. The following municipalities were proclaimed within the area of the Board's jurisdiction:—Adamstown, Carrington, Hamilton, Lambton, Lambton (New), East Maitland, West Maitland, Merewether, Morpeth, Newcastle, Plattsburg, Wallsend, Waratah, and Wickham, besides the unincorporated townships of Minmi, Cockle Creek, and Boolaroo.

The supply of water for the district is pumped from the Hunter River, about a mile and a half up stream from the Belmore Bridge, West Maitland. The pumping engines are situated above flood level, on a hill about 44 chains from the river. At the pumping station there is a settling tank of 1,390,500 gallons; also four filter beds, 100 feet by 100 feet each, a clear water tank of 589,500 gallons capacity, and a storage reservoir of 172,408,100 gallons available capacity. The filtered water is pumped from the clear water tank into two summit reservoirs, one at East Maitland and one at Buttai. The former is connected by a 10-inch cast-iron main about $4\frac{1}{8}$ miles in length, with a capacity of 463,430 gallons, and supplies East Maitland, West Maitland, Morpeth, and neighbouring places. Buttai reservoir is fed by two rising mains, one riveted steel pipe, $20\frac{3}{4}$ inches diameter, and a 15-inch cast-iron main, $5\frac{3}{5}$ miles in length, and has a capacity of 1,051,010 gallons, the districts supplied being Newcastle, Carrington, Wickham, Hamilton, Waratah, Merewether, Adamstown, New Lambton, Lambton, Wallsend, Plattsburg, Minmi, and Cockle Creek. In six of these districts the reservoirs are supplied by gravitation, viz., Minmi (62,000 gallons), Hamilton (403,000 gallons), Wallsend (452,000 gallons), Newcastle (523,000 gallons), Lambton (402,000 gallons), and

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Obelisk Hill, Newcastle (137,000 gallons). On the hill at Newcastle there is also a high-level iron tank with a capacity of 20,000 gallons, which is supplied by a small pumping engine placed on the roof of the Newcastle reservoir.

The length of the mains when the Board was established was 105¼ miles, which had been increased to 149½ miles by the 30th June, 1901. These figures are exclusive of the lengths of suction, rising, and gravitation mains, which amounted to 34⅓ miles on the date last mentioned.

The operations of the Board are at present entirely confined to water supply, no sewerage works having yet been begun. Particulars relating to the operations of the Board are given below. The maximum rate of 1s. in the £ is levied throughout the district. The expenditure for 1900–01 includes £4,328, the instalment of the sinking fund for the reconstruction of renewable works:—

| Year. | Capital Cost. | | Rates struck. | Expenditure (includ'g Interest). | Houses Supplied. | Estimated Population Served. | Supply. | |
|---|---|---|---|---|---|---|---|---|
| | Amount. | Return per cent. | | | | | Daily (average). | Total. |
| | £ | | £ | £ | No. | No. | gallons. | gallons. |
| 1892-3 | 404,407 | 3·52 | 22,651 | 22,551 | 3,421 | 17,100 | 451,000 | 164,617,000 |
| 1893-4 | 405,871 | 2·96 | 21,406 | 23,591 | 3,848 | 19,200 | 419,000 | 152,850,000 |
| 1894-5 | 412,732 | 2·75 | 20,367 | 23,467 | 4,660 | 23,300 | 518,000 | 189,084,000 |
| 1895-6 | 415,784 | 2·88 | 20,779 | 23,362 | 6,246 | 31,200 | 607,000 | 222,062,000 |
| 1896-7 | 428,025 | 3·16 | 22,518 | 23,984 | 6,931 | 34,700 | 731,000 | 266,930,000 |
| 1897-8 | 519,414 | 2·72 | 25,646 | 29,699 | 7,475 | 37,400 | 781,000 | 285,067,000 |
| 1898-9 | 477,890 | 2·58 | 26,478 | 30,880 | 7,920 | 39,600 | 869,000 | 317,184,000 |
| 1899-1900 | 480,689 | 2·59 | 26,356 | 30,723 | 8,423 | 42,100 | 909,000 | 331,651,000 |
| 1900-1901 | 485,835 | 2·77 | 27,405 | 30,948 | 9,086 | 45,430 | 1,005,200 | 366,889,500 |

By the Act of 1892, and an amending Act passed in 1894, the capital debt was to be liquidated by annual instalments distributed over 100 years, interest being reckoned at 3½ per cent. In November, 1897, however, a further amending Act was passed, abrogating the repayment of expenditure on "permanent works," and leaving the number of annual instalments in liquidation of the cost of "renewable works" to be fixed by the Government from year to year.

Evidence given before a Royal Commission which sat in 1897 showed that the Board estimated their deficiency on the working for five years at £26,700, without any provision having been made for the sinking funds prescribed by the previous Acts. It was urged by the Board that so much of the capital debt should be remitted as would bring down the amount of interest to such a sum as would be covered by the prospective revenue.

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The capital cost for 1900–01, given in the above table, is based upon the statement referred by the Minister for Works to the Board for report, in accordance with the provisions of the 36th section of the Amending Act, and the debt has not yet been finally determined.

## Richmond Water Supply.

The municipality of Richmond availed itself of the Country Towns' Water Supply and Sewerage Act, and carried out a scheme of water supply. The local Municipal Council administered the service until May, 1893, when it was temporarily transferred, pending the obtaining of legal powers, to the Metropolitan Board. As only the premises of those persons who signed an agreement to take the water can be rated, the revenue from the service is greatly restricted. The accounts are kept separate from those of the metropolitan supply. A small pumping plant was erected on the left bank of the Hawkesbury, just below the confluence of the Grose and the Nepean, as well as a circular brick tank having a capacity of 225,000 gallons, the top water being 206 feet above sea level. The capital cost of the service, together with the rates struck and the liability against such, are shown hereunder:—

| Year. | Capital Cost. | Annual Liability against Revenue. | | | Rates struck. |
|---|---|---|---|---|---|
| | | Instalment required to pay off cost of works and interest in 100 years. | Maintenance (including proportion of head-office expenses). | Total. | |
| | £ | £ | £ | £ | £ |
| 1893 | 12,340 | 446 | 315 | 761 | 400 |
| 1894 | 12,340 | 446 | 638 | 1,084 | 439 |
| 1895-6 | 12,480 | 674 | 707 | 1,381 | 884 |
| 1896-7 | 12,637 | 457 | 383 | 840 | 658 |
| 1897-8 | 12,658 | 458 | 417 | 875 | 677 |
| 1898-9 | 12,725 | 460 | 454 | 914 | 744 |
| 1899-1900 | 12,737 | 461 | 492 | 953 | 599 |
| 1900-1901 | 12,824 | 464 | 536 | 1,000 | 872 |

The figures shown for 1893 are for the seven months from 1st June to 31st December only, while those for 1895–6 cover the eighteen months from 1st January, 1895, to 30th June, 1896.

## Metropolitan Sewerage Works.

The original sewerage works at Sydney were begun in 1854, and in 1889, the date of transfer to the Board, there were, as stated on a previous page, 70¼ miles of old city sewers in existence. All these old sewers are being gradually renovated and repaired, the cost being provided from revenue. The annual cost for maintenance is considerably lessened by these renovations. The works now being carried out will, when completed, drain the whole of the city and suburbs,

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discharging the sewage of the city and the eastern suburbs into the ocean between Bondi and South Head, that of the western and southern suburbs at a sewage farm on the shores of Botany Bay, and that of the northern suburbs at another sewage farm on the shores of Middle Harbour. Owing to the neglect of the former lessee to undertake the necessary works this farm is now worked by the Board. During the twelve months ended June, 1901, the average daily flow of sewage on to the Botany farm was 3,250,000 gallons, and the total quantity of silt removed from the screening chambers and deposited on the farm, 2,246 tons. Another farm was established during 1898–9 at Rockdale, the daily average flow of sewage during that year being 1,750,000 gallons: in 1899-1900, 3,000,000 gallons; and in 1900-01, 3,300,000 gallons. The two main outfalls have been completed, but the reticulation works in the suburbs will yet take some considerable time to construct before the whole area profits by the system. The subjoined statement gives the transactions for each year since the sewerage system has been under the control of the Board. The capital debt for the last six years is exclusive of £32,341, being a proportion of cost of the new offices of the Board, as the Board have debited their working expenses with rent on these new offices:—

| Year. | Capital Cost. | | Rates struck. | Expenditure (including interest). | Houses connected. | Estimated Population served. | Length of Sewers. | Length of Storm-water drains. |
|---|---|---|---|---|---|---|---|---|
| | Amount. | Return per cent. | | | | | | |
| | £ | | £ | £ | No. | No. | miles. | miles. |
| 1890 | 1,281,045 | 4·65 | 81,800 | 67,026 | 22,765 | 109,300 | 122·03 | 3·15 |
| 1891 | 1,447,287 | 3·86 | 81,302 | 71,906 | 26,884 | 129,000 | 148·02 | 4·38 |
| 1892 | 1,606,948 | 3·77 | 87,927 | 79,543 | 31,402 | 150,700 | 172·94 | 6·62 |
| 1893 | 1,691,462 | 3·93 | 93,661 | 85,363 | 36,062 | 173,100 | 182·34 | 9·10 |
| 1894 | 1,745,120 | 3·72 | 93,134 | 89,237 | 39,965 | 191,800 | 201·95 | 9·82 |
| 1895* | 1,831,611 | 3·12 | 43,110 | 46,605 | ..... | ..... | ..... | ... |
| 1895-6 | 1,892,256 | 2·86 | 85,486 | 98,748 | 44,462 | 213,400 | 230·20 | 14·42 |
| 1896-7 | 2,018,120 | 2·82 | 87,652 | 101,993 | 47,593 | 228,400 | 255·76 | 18·41 |
| 1897-8 | 2,116,306 | 2·80 | 89,688 | 106,382 | 51,425 | 257,100 | 320·25 | 20·59 |
| 1898-9 | 2,699,426 | 2·65 | 103,955 | 116,648 | 58,720 | 281,900 | 389·01 | 22·31 |
| 1899-1900 | 3,073,871 | 2·58 | 116,816 | 135,416 | 68,060 | 340,300 | 461·41 | 25·67 |
| 1900-1901 | 3,280,427 | 2·44 | 125,290 | 151,871 | 75,925 | 364,440 | 515·62 | 25·91 |

* Six months ended 30th June.

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During the twelve months ended June, 1901, 1,100 tons of silt were removed from the sewers, and the bulk of it deposited on Government reclamation works. About 12,170 tons of deposit were also taken from the storm-water drains.

Up to the 30th June, 1901, there had been constructed 445·37 miles of new sewers, and 25·91 miles of storm-water drains, making, together with the old city sewers, a total of 541·53 miles of sewers and drains, of which length 450 miles were ventilated, the aggregate length of the ventilating shafts erected being 194,667 feet. The number of houses connected and of population served at that date was 75,925 and 364,440 respectively.

The sewerage rate for the city of Sydney and the eastern suburbs is 7d., the northern and the western suburbs being rated at 1s. The revenue of the Board from sewerage during the year ended June, 1901, was £125,290, chiefly from rates; and the expenditure £151,871, viz., £34,532 for maintenance, £10,863 for management, £104,897 for interest on loan capital and debentures taken over from the Municipal Councils, and £1,578 for depreciation. No interest, however, is debited by the Board to their account on £103,431 paid for sewerage works out of Consolidated Revenue. If this were done, the return per cent. yielded during the year would be 2·44, as shown in the above table, instead of 2·58 set down by the Board. A similar difference exists in the return for previous years.

The funds necessary for the maintenance and management of the Water Supply and Sewerage services, as well as the sum required to pay interest on the capital debt, are obtained by the previously-mentioned rates levied on the properties situated in the districts benefited by the systems. The assessments of the Municipal Councils are generally accepted by the Boards as the values on which to strike their special rates. In cases of more than ordinary consumption of water, a charge is made according to the quantity used, while fixed charges are imposed for the use of water in certain trades and callings, for gardens, and for the use of animals.

## Local Option.

The principle of what is known as local option is in operation only in those districts of the state which have been proclaimed under the Municipalities Act. For many years there was a strong agitation in favour of local option, or the right of the inhabitants of any district to control the liquor traffic in that district, and on several occasions unsuccessful attempts were made to legislate upon the subject. In the year 1882, however, an instalment of the principle was included in the Licensing Act then passed, which, with an amendment made in the following year, is still in force. These measures provide that in every municipality a local option vote shall be taken every three years, at the election for aldermen, in which the ratepayers are permitted to vote either "Yes" or "No" on two questions: (1) Whether any new

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publicans' licenses shall be granted during the coming three years in the municipality or ward in question; and (2) whether any removals of publicans' licenses shall be allowed within the same period. Over eleven-twentieths of the votes polled are required to make the vote operative in the negative. The advocates of local option are not content with this partial adoption of the principle; they urge its extension to every electorate in the state, all persons on the electoral roll to have the right to vote. They further propose to place it in the power of a majority of the electors to say whether licensed public-houses shall be suffered to exist at all. They also contend that women should have the right to vote upon this question as well as men, and that public-houses should be abolished without compensation to the occupants or owners. Although the local option vote is taken once in three years in every municipality, the year when it is taken is not the same in all. During the three years 1899, 1900, and 1901, only 12,496 electors voted on the first, and 12,324 on the second question, in the country municipalities. In 189 cases the vote was against, and in 71 cases in favour of, the granting of new licenses, and in 2 cases the voting was equal; while in 99 cases there was a majority in favour of, and in 157 cases against, removals, and in 4 cases the voting was equal. The total number of electors on the country municipal rolls in February, 1900, was 85,325; and allowing for the fact that a considerable number of these were for various reasons disqualified from voting, the small number of votes recorded on the local option question shows, nevertheless, a remarkable apathy on the part of the persons entitled to vote. The results of the latest voting in 40 suburban municipalities were that out of a total of 68,697 electors on the rolls, only 7,836 voted on the question of new licenses, viz., 3,267 for, and 6,779 against; and 7,674 on the question of removals, viz., 3,802 for, and 5,787 against. In the city of Sydney a vote was taken on 1st December, 1900, when, out of 31,131 voters on the roll, only 2,418 voted on the question of new licenses, viz., 674 in favour of, and 1,744 against; and 2,390 on the question of removals, viz., 972 in favour of, and 1,418 against. It would therefore appear that very little interest is taken in the matter except by the extreme advocates of temperance on the one hand, and those interested in the drink traffic on the other, while the general public is apathetic on the subject.

### Parks and Recreation Reserves.

It has always been the policy of the state to provide the residents of incorporated towns with parks and reserves for public recreation, and the city of Sydney contains within its boundaries an extent of parks, squares, and public gardens larger than in most of the great cities of the world without regard even to area. The total area covered is 703 acres, or 24 per cent. of the whole of the city proper. In addition to these reserves, the inhabitants of Sydney have the

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use of 530 acres, formerly reserved for the water supply of the city, but now known as the Centennial Park. This magnificent recreation ground has been cleared and planted, and is laid out with walks and drives, so that it is becoming a favourite resort of the citizens. The suburban municipalities are also well provided for, as they contain, including the Centennial Park, about 3,250 acres of public parks and reserves, dedicated to, and in some cases purchased for, the people by the Government, or about $3\frac{3}{4}$ per cent. of their aggregate area.

In addition to these parks and reserves, there was dedicated to the people, in December, 1879, a large area of land, situated about 16 miles south of the metropolis, and accessible by railway. This estate, now known as the National Park, with the additions subsequently made in 1880 and 1883, contains a total area of 36,320 acres, surrounding the picturesque bay of Port Hacking, and extending in a southerly direction towards the mountainous district of Illawarra. It is covered with magnificent virgin forests; the scenery is charming, and its beauties attract thousands of visitors.

Another large tract of land, designated Ku-ring-gai Chase, was dedicated in December, 1894, for public use. The area of the Chase is 35,300 acres, and comprises portions of the parishes of Broken Bay, Cowan, Gordon, and South Colah. This park lies not more than 10 miles north of Sydney, and is accessible by railway to within 5 miles, or by water *vid* the Hawkesbury River, several of whose creeks, notably Cowan Creek, intersect its forests.

In the country districts, reserves, extending in some cases over 1,000,000 acres, have been proclaimed as temporary commons, whilst considerable areas have been from time to time dedicated as permanent commons attached to inland townships, which are otherwise well provided with parks and reserves within their boundaries.

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# EMPLOYMENT AND PRODUCTION

THE population of a country is naturally divided into two broad divisions—breadwinners and dependents. The census returns of New South Wales for 1891 showed on the side of the breadwinners 471,887 persons, of whom 382,385 were males, and 89,502 were females, while the dependents numbered 649,203, comprising 223,285 males and 425,918 females. In addition to these, there were 2,333 males and 531 females unspecified as to occupation. The female worker is very rarely the breadwinner of the family, and the number of persons dependent on such is, therefore, not large. On the other hand, not a few of the female workers styled breadwinners earn less than is needed for their own support, and a rigid classification would require that they should be placed in a division between the breadwinners and dependents; but this is a refinement which cannot now be attempted. It would, however, be reasonable to set the persons dependent on women against those classed as breadwinners who are only partially self-supporting, so that the whole of the dependents may without much error be said to be supported by the male breadwinners. Of the 382,385 of the last-named class there were, therefore, 649,203 persons dependent, giving a proportion of 170 dependents to every 100 male breadwinners. The term "dependent" is not altogether a happy one, seeing that under that designation are included married women and others who perform domestic duties, and the term can only be justified on the ground that for such services no money-wages are paid.

The figures just given relate to 1891. In 1901 another census was taken, but the tabulation of the results had not been sufficiently advanced at the date of publication to admit of exact figures being given. The following, however, is an approximate statement of the population coming within the various grades.

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## Breadwinners.

The breadwinners may be subdivided into divisions indicating their status as workers as follows:—

| Grade. | Males. | Females. | Total. |
|---|---|---|---|
| Employers | 62,300 | 3,250 | 65,550 |
| Persons working on their own account | 57,740 | 17,385 | 75,125 |
| Relatives assisting | 10,440 | 9,265 | 19,705 |
| Wage-earners | 286,080 | 67,525 | 353,605 |
| Unspecified and Unemployed | 29,630 | 12,730 | 42,360 |
| Total | 446,190 | 110,155 | 556,345 |

The employers comprise breadwinners who are assisted in their occupations by paid workers. The wage-earners whom they employ number 313,990, being the total stated above, less 39,615 who are employed in domestic pursuits and not assisting the breadwinners. The proportion of wage-earners to every 100 employers is, therefore, 479—an average pointing to a very large number of small employers. Persons working on their own account are extremely numerous, and are especially strong amongst the farming classes and those following trading pursuits.

The persons not rightly assignable to any of the three classes just mentioned largely comprise those who derive incomes from sources which cannot be directly related to any occupation, and who are popularly styled as of independent means, the remainder being persons who vaguely describe themselves as capitalists, householders, mine-owners, contractors, merchants, and the like.

The relatives returned as assisting do not form a very numerous class. They are mainly found engaged in agricultural pursuits, in which there are 8,890 males and 7,785 females. The fewness of the females is accounted for by the fact that domestic duties take up the whole of their time, and even if such were not the case, the only branch of farming in which their services could be profitably utilised is dairying.

## Dependents.

The dependents may be grouped under four subdivisions:—(*a*) Persons employed in household duties without wages, and of these there are approximately 259,320 females and practically no males; (*b*) Persons of tender years unable to earn their own livelihood, numbering 282,380, of whom 138,220 are males and 144,160 females; (*c*) Relatives and others not performing household duties, who number 112,290 males and

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115,840 females, in all 228,130; and (*d*) Persons dependent on charity, or under legal detention—14,900 persons, viz., 10,030 males and 4,870 females, belonging to this class.

The persons performing household duties without wages are chiefly wives and daughters of breadwinners; the number who cannot be so described is approximately 25,730. The relatives and others not performing household duties were for the most part aged persons, the parents or grand-parents of the breadwinners. There are, however, some young persons returned under this category, these comprising daughters or wives who cannot be classed as performing domestic duties, or who desire not to be so described. The larger portion of the persons dependent on charity are living in public institutions.

### Ages of Breadwinners and Dependents.

The record of the ages of the workers is interesting chiefly as showing the employment of young people. The number of children under 15 years who are employed is about 14,760, of whom 10,050 are males and 4,710 females, the majority of each sex being in their fifteenth year. So far as can be estimated, there are not more than 1,795 children of 13 years and under employed in the State. This is a natural result of the compulsory clauses of the Public Instruction Act, which require the attendance, unless with valid excuse, of all children from 6 to 14 years of age for a term of 70 days in each half-year.

Reference has already been made to the number of dependents compared with the breadwinners. Still more interesting is the grouping of the dependents and breadwinners under ages. The following figures refer to males only :—

| Age Groups. | Breadwinners. | Dependents. | Total. | Dependents per thousand persons in each age group. |
|---|---|---|---|---|
| Under 15 years ..... | 10,050 | 244,275 | 254,325 | 960 |
| 15 years and under 20 | 56,100 | 6,370 | 62,470 | 102 |
| 20 ,, ,, ,, 25 | 65,950 | 900 | 66,850 | 13 |
| 25 ,, ,, ,, 45 | 209,355 | 3,485 | 212,840 | 16 |
| 45 ,, ,, ,, 65 | 88,315 | 2,640 | 90,955 | 29 |
| 65 years and upwards | 16,420 | 2,870 | 19,290 | 148 |
| Total..... | 446,190 | 260,540 | 706,730 | 369 |

The age group in which the least number of dependents is found is that from 20 to 25, where the proportion per thousand is only 13. The proportion increases to 16 from 25 to 45, to 29 from 45 to 65, and to 148 per thousand persons over 65 years of age. This gradation agrees somewhat with the ascertained rate of sickness, and it is a very probable assumption that the dependency of males, when not caused by criminality, is due to

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conditions of health. With females it is otherwise, as will be seen from the following table. Under the category of dependents are included wives and daughters performing domestic duties, and children of naturally dependent ages; and, as the table shows, the proportion of dependents decreases with the progressive ages. The explanation of this will be found in the fact that the number of widows and deserted wives is largest at the older ages, while the number of single women compelled to rely entirely on their own earnings is also greater :—

| Age Groups. | Bread-winners. | Dependents. | Total. | Dependents per thousand persons in each age group. |
|---|---|---|---|---|
| Under 15 years..... | 4,710 | 257,630 | 262,340 | 982 |
| 15 years and under 20... | 28,610 | 37,990 | 66,600 | 570 |
| 20 ,, ,, ,, 25... | 25,860 | 39,380 | 65,240 | 604 |
| 25 ,, ,, ,, 45.. | 32,935 | 129,750 | 162,685 | 798 |
| 45 ,, ,, ,, 65... | 14,140 | 49,120 | 63,260 | 776 |
| 65 years and upwards... | 3,900 | 10,320 | 14,220 | 726 |
| Total..... | 110,155 | 524,190 | 634,345 | 826 |

The number of women following gainful pursuits is about 110,150, and of these 105,450 are of the age of 15 years and upwards. The total number of women of these ages is 379,000; so that 27·82 per cent. of women over 15 years of age are breadwinners. If these figures be compared with the proportions obtaining in other countries, they will be found to be very small, and must certainly be looked upon as evidence of the superior lot of the Australian women. In most European countries, even the married women are compelled to work for such wages as they can procure, in order to assist in the support of their families; but fortunately the necessity for such labour is not yet general in this state.

Amongst women there is a marked absence of combination for trade purposes, and to this must be attributed most of the evils which attend women's industrial work. In some trades women are fairly well paid, but in others the current pay for a reasonable day's work is far below the sum actually required to maintain a respectable life; so that women who have no assistance from relatives are sometimes compelled to make astonishing sacrifices to enable them to live at all. This undue lowering of wages, as already pointed out, is indirectly due to want of combination, but is also greatly influenced by the competition of other women, chiefly wives, who are not solely dependent upon their own earnings for support, and who, therefore, are in a position to undersell their less fortunately situated sisters.

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## Occupations of the People.

The occupations of the inhabitants of the state are classified on a uniform system, being that adopted at the Census Conference held at Hobart in 1890, and examined and readopted at a conference held in Sydney in 1900.

As already explained, the population is divided into two great divisions—breadwinners and dependents. The former are arranged in the natural classes of primary producers and distributors, and these again into their various orders and sub-orders. Dividing the population into the seven classes, the number falling under each class in 1900 would be as follows:—

| Class. | Occupation. | Persons. | Males. | Females. |
|---|---|---|---|---|
| I | Professional—Embracing all persons, not otherwise classed, mainly engaged in the Government and defence of the country, and in satisfying the intellectual, moral, and social wants of its inhabitants | 38,065 | 25,035 | 13,030 |
| II | Domestic—Embracing all persons engaged in the supply of board and lodging, and in rendering personal services for which remuneration is usually paid | 68,825 | 20,965 | 47,860 |
| III | Commercial—Embracing all persons directly connected with the hire, sale, transfer, distribution, storage, and security of property and materials, and with the transport of persons or goods, or engaged in effecting communication | 103,185 | 96,500 | 6,685 |
| IV | Industrial—Embracing all persons not otherwise classed, who are principally engaged in various works of utility, or in specialities connected with the manufacture, construction, modification, or alteration of materials so as to render them more available for the various uses of man, but excluding, as far as possible, all who are mainly or solely in the service of commercial interchange | 167,890 | 145,600 | 22,290 |
| V | Agricultural, pastoral, mineral, and other primary producers—Embracing all persons mainly engaged in the cultivation or acquisition of food products, and in obtaining other raw materials from natural sources | 175,330 | 160,150 | 15,180 |
| VI | Indefinite—Embracing all persons who derive incomes from services rendered, but the direction of which services cannot be exactly determined | 12,745 | 5,685 | 7,060 |
| VII | Dependents—Embracing all persons dependent upon relatives or natural guardians, including wives, children, and relatives not otherwise engaged in pursuits for which remuneration is paid, and all persons depending upon private charity, or whose support is a burthen on the public revenue | 798,550 | 265,060 | 533,490 |

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## MANUFACTORIES.

Prior to 1901 there was no Act in force in the state making it imperative for proprietors of factories and works to supply an annual return of their operations. The Census Act of 1901, however, confers extensive powers on the Statistician with respect to information regarding these establishments, and for the year mentioned and future years the industrial statistics will be on a far more comprehensive basis. Although incomplete for statistical purposes, some very valuable information is obtained under the Factories and Shops Act of 1896, which provides that every employer affected by the Act shall, if required, furnish the fixed rate of wages, or remuneration for piecework, payable to every person in his employ either inside or outside the factory. The Act, which also compels the employer to keep a record of the names and ages of his employees, distinguishing those under 18 years from older workers, came into force on the 1st January, 1897. So far its operations are confined to certain proclaimed districts, but its provisions will ultimately be extended to the whole state. At the present time, particulars of the operations of factories and works are withheld in very few cases, and where they are not given it is the duty of the collector, who is usually a person possessing special knowledge of the district, to make up to the best of his ability an estimate of the employment afforded by the firm which refuses to furnish the information. Any temptation, on the one hand, to show a greater volume of business than is actually transacted during the year is reduced to a minimum by the fact that to do so would not benefit a person in any way, as no individual figures are disclosed; and, on the other hand, a tendency to show a smaller amount of business than is actually the case is guarded against by the scrupulous care taken to prevent disclosure of the contents of a schedule, and the pledge of the Statistician that under no circumstances shall such a document ever be used in connection with any system of taxation.

The method of collecting the returns is to supply the police with a number of blank forms, one of which is left with the proprietor or manager of each factory or work. This is filled up by the person in charge, and given to the police, who send it to the Statistician. The figures are carefully examined in the Statistical Office, and, if necessary, compared with the returns of preceding years; and, in the event of the scrutiny disclosing any apparent inaccuracy, the proprietor of the work is communicated with on the subject. In tabulating the schedules, only those factories and works which have been kept going all the year round are included, with the exception of boiling-down, wool-scouring, and ice and refrigerating works, and flour-mills, in the country districts, which are accepted if they have been working for at least six months out of the twelve. It is also necessary to include some large sugar-mills which are in operation less than six months. Establishments which do not use mechanical power were formerly excluded unless they employed at least



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five hands; but, beginning with the year 1896, the minimum in such cases was reduced to four, in order to secure uniformity with Victoria. All works and factories in which machinery is used are included, as it is obvious that an establishment where only two or three men are employed to look after machinery may turn out a greater quantity of work than another in which the services of a much larger number of men, unassisted by mechanical power, are utilised. Another change made in 1896 with the object of placing the statistics on a uniform basis with those of the sister state, was the inclusion of dressmakers and milliners, who were not enumerated before that date. A third change consisted in the exclusion from the returns of certain blacksmiths partly engaged in jobbing work, and not coming under any specific heading.

Compared with the scale on which manufactories are worked in the older countries of the world, the statistics of manufactures in this state appear very small; but this is not surprising when the nature of the occupations of the people and the sparseness of the population throughout a large portion of the state are taken into consideration. Still, although New South Wales cannot be considered an important manufacturing country, this source of national wealth has by no means been neglected. During the year 1900 there were 3,077 manufactories or works of various descriptions, employing altogether a total of 60,779 hands, of whom 50,516 were males, and 10,263 females. 1,928 of these works had machinery in operation of a total capacity of 49,599 horse-power, of which 35,828 horse-power was actually used during the year; the plant in all works was valued at about £5,707,640. The average value of plant per establishment was £1,855; and the average horse-power 25·7, of which 18·6 was actually used. The hands per factory averaged 20, the average in the metropolis being 29, and in the country about 13. In the following table will be found a division of the 3,077 manufactories and works in operation in 1900, according to the number of hands employed:—

| Establishments employing— | Metropolitan District. | Country Districts. | New South Wales. |
|---|---|---|---|
| | No. | No. | No. |
| Under 4 hands ..... | 67 | 367 | 434 |
| 4 hands ... ..... | 118 | 240 | 358 |
| 5 to 10 hands ..... | 408 | 688 | 1,096 |
| 11 to 20 hands ..... | 313 | 259 | 572 |
| 21 to 50 hands ..... | 257 | 138 | 395 |
| 51 to 100 hands .... ..... | 107 | 24 | 131 |
| From 101 hands upwards... | 68 | 23 | 91 |
| Total .. ..... | 1,338 | 1,739 | 3,077 |

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Until 1892 the statistical year was not coincident with the calendar year, the returns being collected for the twelve months ending with March; but from the year named the annual period begins on the 1st January and ends on the 31st December. It must also be noted that the figures for the years prior to 1896, which in former editions of this work were given on the old basis, have now been adjusted to accord with the new method of compilation mentioned in previous pages. The present basis was adopted in 1896 by the Statistical Offices of New South Wales and Victoria with the object of enabling a fair comparison to be made between the industries of the two states :—

| Year. | Number of Hands employed. | | | Year. | Number of Hands employed. | | |
|---|---|---|---|---|---|---|---|
| | Males. | Females. | Total. | | Males. | Females. | Total. |
| 1890-91 | 43,203 | 7,676 | 50,879 | 1896 | 42,908 | 6,932 | 49,840 |
| 1892 | 42,909 | 5,007 | 47,916 | 1897 | 44,333 | 7,106 | 51,439 |
| 1893 | 37,832 | 4,225 | 42,057 | 1898 | 44,673 | 7,845 | 52,518 |
| 1894 | 41,070 | 5,432 | 46,502 | 1899 | 47,063 | 8,583 | 55,646 |
| 1895 | 41,546 | 6,484 | 48,030 | 1900 | 50,516 | 10,263 | 60,779 |

From 1891 to 1893 it will be seen that there was a period of decline, but since the latter year there has been a consistent increase annually, the figures for 1900 being over 19 per cent. in advance of those shown for the first year in the table.

The figures quoted in the foregoing table represent the number usually employed; but besides these there are other hands whose employment is casual. Thus, in 1900 the average number of persons finding employment was 60,779, whereas the greatest number employed was 68,438, the excess comprising 6,834 males and 825 females, in all 7,659. The maxima of the different industries, as might naturally be expected, fell at various periods during the year, so that the whole number of 68,438 were not employed at any specific time in the various industries dealt with under the classification of manufactories and works, and it is probable that the greatest number employed at any one time did not in reality exceed the usual number of persons for whom employment was found by more than 5,000. Much the same condition of things obtained in other years, and it may be accepted that in the busy seasons of the year one-tenth more hands are employed than the average of the whole twelve months.

The table given below, in which the hands employed are divided into eleven classes, shows the average number of persons employed in each class during the past ten years. As mentioned previously, there was a

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new basis of compilation adopted in 1896 for purposes of comparison with Victoria, and the figures for years prior to 1896 have now been amended in accordance with this system. The classes principally affected by the change of basis were Nos. III and VIII. A detailed analysis—too voluminous, however, to be given in a work of this kind—would show that the greatest progress has been made in domestic industries—that is to say, in the industries which naturally arise from the circumstances of the population, and in those connected with the preparation of perishable products; and in metal works, due principally to the erection of new smelting works. The total number of hands set down in the table as having been employed in 1900 is the largest during the decade :—

| Class of Industry. | Number of Hands employed. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1890-91 | 1892. | 1893. | 1894. | 1895. | 1896. | 1897. | 1898. | 1899. | 1900. |
| I. Treating raw materials, the product of pastoral pursuits | 2,076 | 2,006 | 3,065 | 4,044 | 3,669 | 3,552 | 3,213 | 2,601 | 2,690 | 2,582 |
| II. Connected with food and drink, or the preparatio thereof | 7,757 | 6,983 | 7,263 | 7,278 | 8,867 | 9,538 | 9,055 | 9,330 | 9,356 | 9,573 |
| III. Clothing or texti n fabrics | 10,268 | 7,676 | 7,329 | 8,764 | 9,785 | 9,639 | 9,955 | 10,668 | 10,984 | 13,061 |
| IV. Building materials | 7,753 | 7,680 | 5,736 | 6,209 | 5,607 | 5,848 | 5,661 | 6,062 | 6,277 | 6,636 |
| V. Metal works, machinery, etc. | 10,257 | 9,777 | 6,700 | 7,390 | 7,764 | 8,705 | 10,418 | 10,234 | 11,901 | 12,932 |
| VI. Shipbuilding, repairing, etc. | 1,079 | 1,509 | 1,393 | 1,509 | 1,039 | 1,132 | 1,387 | 1,312 | 1,499 | 1,674 |
| VII. Furniture, bedding, etc. | 1,297 | 1,096 | 679 | 844 | 828 | 1,167 | 1,310 | 1,549 | 1,677 | 1,916 |
| VIII. Paper, printing, binding, etc. | 4,309 | 4,578 | 4,210 | 4,370 | 4,827 | 4,940 | 4,961 | 4,891 | 5,054 | 5,421 |
| IX. Vehicles, harness, and saddlery | 2,054 | 2,616 | 1,431 | 1,615 | 1,464 | 1,592 | 1,706 | 1,849 | 1,950 | 2,248 |
| X. Light, fuel, and heat | 1,571 | 1,915 | 1,903 | 1,703 | 1,447 | 859 | 938 | 935 | 987 | 1,063 |
| XI. Miscellaneous | 2,458 | 2,080 | 2,258 | 2,776 | 2,733 | 2,868 | 2,835 | 3,087 | 3,271 | 3,653 |
| Total hands employed | 50,879 | 47,916 | 42,057 | 46,502 | 48,030 | 49,840 | 51,439 | 52,518 | 55,646 | 60,779 |

Of the 60,779 workers employed in 1900 it may be said that only 24,963 found employment in connection with industries the products from which come into competition with imported goods—3,577 being employed in domestic industries treating perishable produce required for immediate use, and 32,239 in other industries called into existence by the natural resources of the state.

Maintaining the same broad classification as before, the division of the employees into grades discloses interesting results. About 7·7 per cent. of the persons employed in 1900 were managers or overseers, and over 3 per cent. clerks. The number of persons working as engineers, etc., apart from the manufacturing operations, was 1,717, giving a proportion

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of 2·8 per cent., while 3·8 per cent. were employed as carters, messengers, etc. The following are the figures for each class :—

| Description of Industries. | Managers and Overseers employed. | Clerks employed. | Engineers, etc., employed. | Workers in Factory, Mill, etc. | Carters, Messengers, etc. | Number regularly employed at their own homes. | Total. |
|---|---|---|---|---|---|---|---|
| Treating raw material, the production of pastoral pursuits.. | 257 | 45 | 130 | 2,030 | 120 | ... | 2,582 |
| Preparing materials used as food or drink .. ..... ..... | 982 | 490 | 545 | 6,967 | 589 | ... | 9,573 |
| Clothing and textile industries.. | 711 | 145 | 30 | 11,500 | 84 | 591 | 13,061 |
| Manufacture of building material | 740 | 247 | 367 | 4,652 | 630 | ... | 6,636 |
| Metal and machinery works..... | 538 | 335 | 353 | 11,394 | 312 | ... | 12,932 |
| Shipbuilding, repairing, etc..... | 47 | 28 | 22 | 1,484 | 93 | ... | 1,674 |
| Furniture and bedding works . | 161 | 33 | 12 | 1,664 | 44 | 2 | 1,916 |
| Paper, printing, binding, and engraving ..... ..... | 534 | 369 | 47 | 4,295 | 176 | ... | 5,421 |
| Vehicles, harness, and saddlery.. | 274 | 48 | 7 | 1,895 | 23 | 1 | 2,248 |
| Light and heat..... ..... | 105 | 47 | 107 | 754 | 70 | ... | 1,083 |
| Miscellaneous ..... | 325 | 138 | 97 | 2,906 | 185 | 2 | 3,653 |
| Total ..... | 4,674 | 1,925 | 1,717 | 49,541 | 2,326 | 596 | 60,779 |

Child labour is employed in the factories of the state only to a very slight extent. This is what might be expected, seeing that by the law regulating primary education children are required to attend school until they reach their fourteenth year. Under the provisions of the Factories and Shops Act of 1896 young people of both sexes under the age of thirteen years may not be employed in factories in the Metropolitan and Newcastle districts. It was found at the census of 1891 that in all occupations only 8,612 males and 3,825 females under 15 years of age were employed; in 1900 the total number working in factories was 768, viz., 589 males and 179 females. These last figures may, however, be taken as only approximate, and it is not improbable that, owing to the remarkable reluctance of female apprentices and improvers to state their ages, the number is under the truth.

There has been some tendency for the number of hands employed in the metropolitan district to increase faster than those in the other portions of the state. The facilities for the establishment of large industries in and around Sydney are considerable—a commanding position as regards communication with the outside world, propinquity to the coal-fields, easy communication with the chief seats of raw production in the state, density of the population, and abundant water supply—these have tended to centre in the metropolitan district all the chief industries. In the extra-metropolitan districts the principal works are saw-mills, smelting works, sugar-mills, and flour-mills, or industries of a domestic

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character intended to meet a day-to-day demand, or for the treatment of perishable goods.

The following table shows the number of hands employed in the metropolitan district as compared with the remainder of the state for the last ten years :—

| Year. | Hands employed. | | Year. | Hands employed. | |
|---|---|---|---|---|---|
| | Metropolitan District. | Other Districts. | | Metropolitan District. | Other Districts. |
| 1890–91 | 28,058 | 18,077 | 1896 | 29,085 | 20,755 |
| 1892 | 24,128 | 20,140 | 1897 | 29,984 | 21,455 |
| 1893 | 22,672 | 16,246 | 1898 | 31,934 | 20,584 |
| 1894 | 24,934 | 17,817 | 1899 | 34,216 | 21,430 |
| 1895 | 25,287 | 18,546 | 1900 | 38,668 | 22,111 |

There is a vast field open for the development of manufactures in New South Wales. Producing, as it does, the raw material of various kinds necessary for supplying the primary wants of civilisation, it is evident that the state must ere long find a way into some parts of this field. The one great cause which has hitherto operated to prevent the larger development of manufactures is the impossibility of drawing from a population so small and so widely scattered a fair profit on the capital required to carry them on. Hitherto the chief employment found for labour and capital has been in the primary productive industries, and these industries continuing to be profitable and population to increase, whenever the prospect of profit presents itself, manufactures, adapted to the conditions as well as to the wants of the country, will naturally establish themselves, affording other investments for capital, and avenues for the employment of labour.

### Preparation of Raw Materials.

Below will be found a table showing the number of works devoted to the preparation of raw materials, the product of pastoral pursuits. The amount of employment offering in these works is, of course, not a little affected by the seasons :—

| Description of Works. | Number of Works. | Average number of Hands employed. | | | | | | Horse-power of Plant or Machinery. | Approximate Value of Plant or Machinery. |
|---|---|---|---|---|---|---|---|---|---|
| | | Managers and Overseers. | Clerks, &c. | Engine-drivers, &c. | Workers in Factory, Mill, &c. | Carters, Messengers, &c. | Total. | | |
| | | | | | | | | | £ |
| Boiling-down | 9 | 11 | .. | 4 | 16 | 6 | 37 | 181 | 5,475 |
| Glue and Oil and Grease | 7 | 12 | 4 | 12 | 91 | 8 | 127 | 300 | 55,350 |
| Manures | 8 | 9 | 4 | 8 | 68 | 4 | 93 | 106 | 12,222 |
| Tallow Refineries | 5 | 8 | 3 | 6 | 23 | 21 | 66 | 94 | 6,700 |
| Tanneries | 97 | 132 | 11 | 33 | 802 | 31 | 1,014 | 835 | 60,810 |
| Wool-washing and Scouring | 58 | 85 | 23 | 62 | 1,024 | 50 | 1,245 | 1,080 | 77,565 |
| Total | 179 | 257 | 45 | 130 | 2,029 | 120 | 2,582 | 2,646 | 225,122 |

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Boiling-down and wool-washing works confined to station use have not been included in the above table. The number of hands given is the average at work throughout the year, but at certain seasons many more persons are at work, especially at wool-washing. As would naturally be anticipated, women do not find much employment in the industries comprised in the foregoing category, none being employed during 1900. The number of children employed is also small—namely, five, all males. The production of tallow is an important industry. The rise in prices which occurred during 1892 induced pastoralists to slaughter and boil down part of their surplus stock, especially the old ewes, and although the price of tallow afterwards fell, the production greatly increased. During 1894 the export reached the large figure of 847,236 cwt., a quantity greatly in excess of that exported in any previous year, and the slight decrease in the exports during 1895 was more than counterbalanced by the large increase in local consumption. Since 1895 there has, however, been a great decrease in the production of tallow, the quantity produced being 570,983 cwt., in 1896; 656,973 cwt., in 1897; 466,102 cwt., in 1898; 389,838 cwt. in 1899, and 444,429 cwt in 1900. The following statement gives the estimated quantity of tallow made in the state, distinguishing the amount locally consumed from that exported:—

| Year. | Estimated quantity of New South Wales Tallow. | | |
|---|---|---|---|
| | Exported. | Locally consumed. | Produced. |
| | cwt. | cwt. | cwt. |
| 1890–91 | 223,619 | 123,080 | 346,698 |
| 1892 | 313,331 | 123,053 | 436,384 |
| 1893 | 657,591 | 183,065 | 840,656 |
| 1894 | 847,236 | 221,864 | 1,069,100 |
| 1895 | 794,920 | 282,295 | 1,077,215 |
| 1896 | 404,054 | 166,929 | 570,983 |
| 1897 | 485,102 | 171,871 | 656,973 |
| 1898 | 331,842 | 134,260 | 466,102 |
| 1899 | 247,052 | 142,786 | 389,838 |
| 1900 | 309,069 | 135,360 | 444,429 |

## Preparation of Food Products.

The establishments connected with the preparation of food and drink form one of the largest classes of works in New South Wales. In many places which come under this heading, and from which returns were received, the number of hands employed is small, owing to the nature of the operations carried on, although the output may be considerable. It should be noted that creameries are now regarded as adjuncts to butter factories, and are included with the latter so far as the number

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of hands employed and the plant and machinery in use are considered; the number of establishments, however, only represents the number of factories where butter is made :—

| Description of Manufactory or Work. | Number of Establishments. | Average number of Hands employed. | | | | | | Horse-power of Plant or Machinery. | Approximate Value of Plant or Machinery. |
|---|---|---|---|---|---|---|---|---|---|
| | | Managers and Overseers. | Clerks, &c. | Engine-drivers, &c. | Workers in Factory, Mill, &c. | Carters, Messengers, &c. | Total. | | |
| | | | | | | | | | £ |
| Aerated Waters | 186 | 220 | 39 | 24 | 709 | 131 | 1,123 | 617 | 85,919 |
| Bacon | 12 | 16 | 9 | 11 | 84 | 8 | 128 | 139 | 11,000 |
| Biscuits | 8 | 19 | 21 | 7 | 763 | 20 | 830 | 143 | 46,846 |
| Breweries | 52 | 87 | 116 | 53 | 567 | 97 | 920 | 1,623 | 163,360 |
| *Butter | 120 | 313 | 63 | 96 | 315 | 70 | 857 | 2,363 | 180,691 |
| Cheese | 14 | 18 | 3 | 1 | 27 | 5 | 54 | 87 | 4,372 |
| Condensed Milk | 3 | 4 | 3 | 9 | 40 | 11 | 67 | 133 | 12,313 |
| Condiments, Coffee, and Spices | 21 | 31 | 38 | 10 | 440 | 16 | 535 | 359 | 23,162 |
| Confectionery | 16 | 24 | 31 | 12 | 625 | 14 | 706 | 178 | 2,815 |
| Cornflour | 4 | 9 | 11 | 6 | 73 | 7 | 106 | 87 | 18,800 |
| Flour | 86 | 117 | 71 | 110 | 455 | 88 | 841 | 4,308 | 275,910 |
| Ice and Refrigerating | 24 | 50 | 40 | 93 | 402 | 38 | 623 | 2,145 | 89,760 |
| Jam and Fruit-canning | 8 | 15 | 19 | 7 | 662 | 10 | 713 | 171 | 9,462 |
| Meat Preserving and Curing | 12 | 24 | 13 | 19 | 781 | 33 | 870 | 378 | 33,195 |
| Sugar Mills | 8 | 34 | 9 | 70 | 546 | 31 | 690 | 2,988 | 516,039 |
| Sugar Refineries | 1 | 1 | 4 | 17 | 478 | 10 | 510 | 700 | 218,055 |
| Total | 575 | 982 | 490 | 545 | 6,967 | 589 | 9,573 | 16,479 | 1,692,199 |

* Including 1 butterine factory.

Included in the foregoing figures are 18 female overseers or managers, 14 clerks, and 931 workers in the factory—in all, 963 females, of whom 22 were children. In such establishments as aerated water factories, breweries, butter and cheese factories, flour and sugar mills, and jam factories, there is a large fluctuation in the amount of labour employed, in some seasons many more people being engaged than in others. Taking the whole of the above works, for a portion of the year there were probably about 1,380 more hands employed than are given in the table.

The brewing industry has not made much advance since 1886, when an excise of 3d. per gallon was imposed on the local manufacture of

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beer. It is open to question, however, whether the falling off in production, in comparison with the growing population, is due to this cause, as there is evidence that there is now a lessened demand for all forms of alcoholic liquors. The invoice value of ale and beer imported, and on which duty was paid, during 1900, was £252,100—not a very large amount considering that £187,363 of it was for beer in bottle, which in this state breweries are only now attempting to produce on any extensive scale. The following table illustrates the present position of the brewing and bottling industry and its progress during the last ten years; the figures given for the year 1890–91, during which period the statistical year did not coincide with the calendar year, represent the quantities on which excise was paid during 1891 :—

| Year. | Hands Employed. | Manufacture of Ale, Beer, etc. |
|---|---|---|
| | No. | gallons. |
| 1890–91 | 793 | 10,594,020 |
| 1892 | 745 | 10,807,200 |
| 1893 | 685 | 9,753,200 |
| 1894 | 744 | 9,508,400 |
| 1895 | 848 | 9,821,840 |
| 1896 | 791 | 10,177,360 |
| 1897 | 871 | 10,806,400 |
| 1898 | 830 | 11,674,880 |
| 1899 | 885 | 12,218,560 |
| 1900 | 920 | 13,410,800 |

The growth of sugar-cane in the northern districts of the state, and the manufacture of sugar therefrom, have now become important industries, the output in 1900 being 398,760 cwt. of sugar and 1,179,600 gallons of molasses. Since 1897, however, there has been a great decrease in the acreage under cultivation, due, in great measure, to the fact that many of the growers in the North Coast district have abandoned sugar-growing in favour of dairy-farming. The total area under cane in 1901 was 22,114 acres, or 148 acres less than that of 1892, when it was returned at 22,262 acres. As far back as 1877–8 the number of sugar-mills in the state was 50, of which 24 used steam-power, whilst 26 were worked by cattle, and the number of

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workmen employed was 1,065. These had increased in the year 1885–86 to 83 steam-mills and 19 worked by cattle, whilst the number of men employed and the quantity of sugar and molasses turned out had correspondingly increased; but since that time the fall in the value of sugar has caused the closing of many of the smaller establishments, and the cane grown has been to an increasing extent sold to the large factories, which pay to the growers a price but slightly below that given prior to 1885. At the present time there are only 8 mills in the state. Almost everywhere the tendency to concentrate the manufacture of sugar in large central establishments is increasing. In the West Indies and elsewhere small mills are rapidly disappearing to make room for larger establishments, where business is strictly confined to the industrial process of sugar making, the planters attending solely to the cultivation of the cane. The following shows the particulars of the sugar industry for the last ten years:—

| Year. | Sugar Mills. | | Horse-power. | | Manufacture of— | | Hands Employed. |
|---|---|---|---|---|---|---|---|
| | Worked by Steam. | Otherwise Worked. | Steam. | Other. | Raw Sugar. | Molasses. | |
| | No. | No. | | | cwt. | gallons. | No. |
| 1890–91 | 31 | 2 | *1,344 | *12 | 530,660 | 1,074,080 | 1,621 |
| 1892 | 24 | 1 | 3,594 | 70 | 485,780 | 789,230 | 1,468 |
| 1893 | 25 | 3 | 3,244 | 16 | 478,605 | 1,079,940 | 1,392 |
| 1894 | 23 | 2 | 3,476 | ... | 452,756 | 1,573,886 | 1,174 |
| 1895 | 24 | ..... | 3,430 | ... | 444,261 | 1,427,458 | 1,415 |
| 1896 | 23 | ..... | 3,479 | ... | 571,140 | 2,520,580 | 1,475 |
| 1897 | 19 | ..... | 3,620 | ... | 553,066 | 1,421,406 | 1,297 |
| 1898 | 20 | ..... | 3,331 | ... | 582,198 | 1,647,785 | 1,168 |
| 1899 | 13 | ..... | 3,212 | ... | 307,048 | 1,064,850 | 1,038 |
| 1900 | 8 | ..... | 2,988 | ... | 398,760 | 1,179,600 | 690 |

* Only partially ascertained.

In addition to the 690 hands usually employed in 1900, there were 38 others employed at busy periods, comprising altogether 728. It is very possible that casual hands have been included in some of the years shown in the foregoing statement.

There is now only one establishment in the state for refining raw sugar. The quantity of sugar melted during the year 1900 was 1,191,000

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cwt., of which 602,013 cwt. were imported, chiefly from Queensland. The remaining 588,987 cwt. comprised raw sugar produced in New South Wales. The returns relating to sugar refineries for the last ten years are given in the subjoined table:—

| Year. | Sugar Refineries. | Hands employed. | Quantity of Sugar melted. | Year. | Sugar Refineries. | Hands employed. | Quantity of Sugar melted. |
|---|---|---|---|---|---|---|---|
| | No. | No. | cwt. | | No. | No. | cwt. |
| 1890-91 | 1 | 300 | 660,000 | 1896 | 1 | 391 | 866,000 |
| 1892 | 1 | 372 | 772,948 | 1897 | 1 | 398 | 864,400 |
| 1893 | 2 | 672 | 805,058 | 1898 | 1 | 454 | 948,400 |
| 1894 | 2 | 440 | 756,200 | 1899 | 1 | 450 | 1,032,400 |
| 1895 | 1 | 342 | 801,000 | 1900 | 1 | 510 | 1,191,000 |

The hands given above as engaged during the year are only those in constant employment; in addition, there are many men employed for longer or shorter periods in discharging ships, storing sugar, and other work incidental to the trade.

Almost from the introduction of the sugar-growing industry in New South Wales, the manufacture of sugar has been largely in the hands of the Colonial Sugar Refining Company, whose mills on the Clarence, the Richmond, and the Tweed have been referred to in another part of this work. This company also owns the only sugar refinery in the state, where the produce of their local mills is refined, together with a portion of the output of their factories in Fiji and Queensland.

The amount of mill-power for grinding and dressing grain is ample for treating the flour consumed in the state; and the fact that New South Wales now produces sufficient wheat for its own requirements does not, therefore, make an increase in the number of flour-mills probable, as those in existence are not kept going to their full capacity. The figures in the following table approximate closely to the actual amount of wheat treated in the local mills:—

| Year. | New South Wales Wheat treated. | Imported Wheat treated. | Total Wheat treated. | Total Flour made. |
|---|---|---|---|---|
| | bushels. | bushels. | bushels. | tons. |
| 1891 | 5,060,491 | 859,309 | 5,919,800 | 118,396 |
| 1892 | 3,244,942 | 925,508 | 4,170,450 | 83,409 |
| 1893 | 6,641,668 | 458,332 | 7,100,000 | 142,000 |
| 1894 | 5,662,660 | 254,290 | 5,916,950 | 118,339 |
| 1895 | 6,210,639 | 358,861 | 6,569,500 | 131,390 |
| 1896 | 4,628,964 | 2,238,576 | 6,867,540 | 137,350 |
| 1897 | 5,940,501 | 790,149 | 6,730,650 | 134,613 |
| 1898 | 8,078,664 | 444,986 | 8,523,650 | 170,473 |
| 1899 | 6,814,636 | 1,005,814 | 7,820,450 | 156,409 |
| 1900 | 8,397,190 | 123,960 | 8,521,150 | 170,423 |

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Particulars of the flour-mills in operation in the state for the last ten years are given below :—

| Year. | Flour-mills. | | | Year. | Flour-mills. | | |
|---|---|---|---|---|---|---|---|
| | No. | Horse-power. | Hands Employed. | | No. | Horse-power. | Hands Employed. |
| 1890–91 | 74 | 2,363 | 541 | 1896 | 81 | 3,448 | 721 |
| 1892 | 72 | 1,936 | 568 | 1897 | 81 | 3,888 | 740 |
| 1893 | 87 | 2,531 | 699 | 1898 | 80 | 3,955 | 757 |
| 1894 | 83 | 3,305 | 696 | 1899 | 80 | 4,065 | 815 |
| 1895 | 87 | 3,611 | 678 | 1900 | 86 | 4,368 | 841 |

## Manufactories of Clothing and Textiles.

The third class of industries is connected with the manufacture of clothing and textile fabrics. The different descriptions of works are given below :—

| Description of Manufactory or Work. | Number of Establishments. | Average number of Hands employed. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Managers and Overseers. | | Clerks, &c. | | Engine-drivers, &c. | Workers in Factory, Mill, &c. | | Carters, Messengers, &c. | | Number regularly employed at their own homes. | | Total. | | |
| | | M. | F. | M. | F. | M. | M. | F. | M. | F. | M. | F. | M. | F. | Total. |
| Boots and shoes | 94 | 164 | 16 | 47 | 2 | 14 | 2,625 | 1,020 | 35 | .. | 21 | 9 | 2,906 | 1,047 | 3,955 |
| Clothing | 31 | 47 | 13 | 29 | 7 | 6 | 531 | 1,923 | 13 | .. | 8 | 297 | 634 | 2,240 | 2,874 |
| Dressmaking and Millinery | 169 | 21 | 195 | 6 | 3 | .. | 8 | 2,166 | 3 | 1 | .. | 13 | 38 | 2,378 | 2,416 |
| Furriers | 2 | 2 | .. | .. | .. | .. | 10 | 11 | .. | .. | .. | .. | 12 | 11 | 23 |
| Hats and caps | 10 | 15 | 4 | 2 | .. | 2 | 76 | 170 | 2 | .. | .. | 9 | 97 | 183 | 280 |
| Oilskin and waterproof clothing | 5 | 10 | .. | 5 | .. | 1 | 55 | 231 | 2 | .. | 3 | 60 | 76 | 291 | 367 |
| Shirtmaking | 9 | 9 | 2 | .. | 1 | .. | 6 | 110 | 1 | .. | .. | 4 | 16 | 117 | 133 |
| Tailoring | 176 | 203 | 1 | 37 | 3 | 1 | 1,065 | 1,291 | 26 | .. | 50 | 117 | 1,382 | 1,412 | 2,794 |
| Woollen cloth | 4 | 9 | .. | 3 | .. | 6 | 144 | 58 | 1 | .. | .. | .. | 163 | 58 | 221 |
| Total | 500 | 480 | 231 | 129 | 16 | 30 | 4,520 | 6,980 | 83 | 1 | 82 | 509 | 5,324 | 7,737 | 13,061 |

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Power is not employed to any extent in the industries included in the foregoing class, except in boot factories and woollen mills. In boot factories, plant valued at £82,786 is employed, the machinery having a capacity of 304 horse-power; in clothing factories the value of plant is £14,105; and in woollen mills the plant is valued at £20,119, the capacity of the machinery being 210 horse-power.

As a wool-growing country New South Wales is apparently specially adapted for the manufacture of woollen goods, and accordingly that industry was one of the earliest organised in the state. The endeavour to promote the local manufacture of woollen goods, however, has so far met with little success. The largest establishments find it needful to add to their business the making of slop clothing, by which means they have been enabled to carry on at a profit. The machinery in most of the mills is not of the best kind, and altogether the industry is disappointing.

The following table shows the number of woollen-mills in operation, the number of employees, and the quantity of cloth manufactured during each of the last ten years :—

| Year. | Woollen-mills. | Hands Employed. | | | Quantity of Woollen Cloth manufactured. |
|---|---|---|---|---|---|
| | | Males. | Females. | Total. | |
| | No. | No. | No. | No. | yards. |
| 1890-91 | 4 | 94 | 61 | 155 | 310,000 |
| 1892 | 5 | 127 | 58 | 185 | 202,088 |
| 1893 | 5 | 144 | 59 | 203 | 440,500 |
| 1894 | 5 | 159 | 62 | 221 | 461,000 |
| 1895 | 5 | 175 | 67 | 242 | 613,500 |
| 1896 | 5 | 162 | 70 | 232 | 588,015 |
| 1897 | 5 | 149 | 61 | 210 | 440,177 |
| 1898 | 5 | 169 | 72 | 241 | 487,374 |
| 1899 | 4 | 144 | 78 | 222 | 428,158 |
| 1900 | 4 | 163 | 58 | 221 | 460,187 |

In 1882 there were eight woollen-mills in operation in the state, employing as many as 385 hands. Now, as will be seen from the above table, the number of mills has been reduced to four, and the employment afforded is much less; at the same time, the production of cloth in 1882 was only returned at 319,225 yards. It will be observed, however, that the quantity of woollen cloth which is stated to have been manufactured bears no fixed proportion to the hands employed. The figures are set down from the manufacturers' own returns, and are given for what they are worth.

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The employment afforded in the manufacture of boots has kept pace with the growth of population, as will be perceived from the table below. The improved efficiency of the machinery employed is, however, apparent in the increased output :—

| Year. | Boot Factories. | Hands Employed. | | | Boots Manufactured. | Slippers, Canvas, and Cloth Shoes made. |
|---|---|---|---|---|---|---|
| | | Males. | Females. | Total. | | |
| | No. | No. | No. | No. | pairs. | pairs. |
| 1890-91 | 60 | 2,262 | 544 | 2,806 | 2,634,254 | * |
| 1892 | 66 | 2,230 | 478 | 2,708 | 2,500,000 | * |
| 1893 | 54 | 2,429 | 661 | 3,090 | 2,545,061 | * |
| 1894 | 68 | 2,716 | 704 | 3,420 | 2,611,700 | * |
| 1895 | 66 | 2,852 | 891 | 3,743 | 2,721,122 | 104,000 |
| 1896 | 82 | 2,677 | 849 | 3,526 | 2,567,169 | 155,000 |
| 1897 | 81 | 2,683 | 637 | 3,520 | 2,735,528 | 210,356 |
| 1898 | 76 | 2,655 | 845 | 3,500 | 2,904,783 | 237,120 |
| 1899 | 79 | 2,602 | 908 | 3,510 | 3,207,196 | 285,365 |
| 1900 | 94 | 2,906 | 1,047 | 3,953 | 3,269,935 | 387,156 |

* Included in Boots and Shoes.

From the above figures it will be noticed that there was an increase in the number of hands from 2,806 in 1890–91 to 3,743 in 1895, when the number of establishments was only six more than it was five years before. In 1896 the hands decreased in number to 3,526, in 1897 to 3,520, and in 1898 to 3,500, despite the inclusion in those two years of a small number of factories employing four hands which had been excluded from the returns in previous years. There is a slight upward tendency, however, in 1899, when the number of hands was returned at 3,510, and in 1900 the total had increased to 3,953. There appears to be a tendency for large factories to supersede small works, and drive the latter out of competition in this particular branch of manufacture. The average number of hands employed in each factory rose from 35·9 in 1888–89 to 55·2 in 1895, while in 1896, 1897, 1898, 1899, and 1900, owing to the change in the system of tabulation, the average was only 43·0, 43·5, 46·1, 44·4, and 42·0 respectively. The number of pairs of boots manufactured during 1900 was 3,269,935, the highest output yet recorded, and equal to an increase in production of over 635,680 pairs on that of 1891. A comparison simply by pairs manufactured, however, is not altogether satisfactory. The description of boot made has very greatly improved of late years, and to this may be attributed the fact that the output per hand is not quite so large as formerly.

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## METAL WORKS.

The number of metal and machinery works in operation during 1900, the average number of hands employed, and the machinery and other plant used, were as follow :—

| Description of Works. | Number of Establishments. | Average number of Hands employed. | | | | | | Machinery and other Plant. | |
|---|---|---|---|---|---|---|---|---|---|
| | | Managers and Overseers. | Clerks, &c. | Engine-drivers, &c. | Workers in Factory, Mill, &c. | Carters, Messengers, &c. | Total. | Horse-power. | Value. |
| | | | | | | | | | £ |
| Agricultural Implements | 9 | 14 | 6 | 5 | 142 | 2 | 169 | 71 | 7,050 |
| Boiler-making | 5 | 8 | 8 | 2 | 139 | 2 | 159 | 223 | 7,430 |
| Brass | 11 | 16 | 6 | 3 | 154 | 1 | 180 | 55 | 8,400 |
| Coppersmithing | 5 | 8 | 3 | 3 | 68 | .. | 82 | 23 | 1,890 |
| Engineering | 76 | 133 | 97 | 60 | 2,853 | 54 | 3,197 | 1,869 | 247,849 |
| Galvanised Iron | 19 | 24 | 15 | 5 | 248 | 7 | 299 | 56 | 9,884 |
| Iron Works and Foundries | 52 | 71 | 37 | 41 | 1,151 | 24 | 1,324 | 838 | 117,060 |
| Lead | 2 | 2 | 3 | 2 | 90 | 4 | 101 | 450 | 16,300 |
| Railway Carriages* | 2 | 5 | 5 | 3 | 135 | .. | 148 | 62 | 11,510 |
| Railway and Tramway Workshops | 20 | 43 | 42 | 32 | 2,466 | 16 | 3,098 | 1,153 | 165,735 |
| Smelting and Ore-dressing | 41 | 133 | 68 | 186 | 2,501 | 173 | 3,061 | 5,775 | 639,985 |
| Stoves and Ovens | 8 | 11 | 5 | 1 | 73 | 3 | 93 | 15 | 3,050 |
| Tinsmithing | 31 | 45 | 15 | 2 | 364 | 5 | 431 | 26 | 14,680 |
| Wire-working | 4 | 6 | 12 | 4 | 190 | .. | 212 | 54 | 17,180 |
| Other Metal Works | 12 | 19 | 13 | 4 | 321 | 21 | 378 | 155 | 13,570 |
| Total | 297 | 583 | 335 | 353 | 11,394 | 312 | 12,932 | 10,825 | 1,281,573 |

* Including 1 establishment making railway springs.

The classification of works connected with machinery, engineering, and foundries presents many difficulties, as the trades are in many cases carried on side by side in the same establishment, and what one year is designated by a proprietor an "engineering establishment," may in the following year be returned as a "foundry," according to the importance of the work done during the year. The various descriptions of ironworks have been separately shown above, so far as it has been possible to classify them, but the figures referring to kindred industries should be read together.

The iron trade should in time form one of the great staple industries of the state. Every natural advantage possessed by the great iron and machinery-producing countries of the world—such as England and Belgium—is also present here. Not only are iron and coal deposited in abundance, and in positions easily accessible and readily worked, but, as pointed out in the chapter on Mines and Minerals, the local iron ore is exceedingly rich. Scarcely any progress, however, has been made in iron smelting, and nearly the whole stock of pig and wrought iron required for the local manufactories is imported. The other descriptions of metal works, both for smelting and manufacturing, are in a more forward state.

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Works for the treatment of metals in 1890 numbered 294, in which were engaged 10,236 persons, while in 1900 the number of works was 297, and the hands employed had increased to 12,932. In 1890 there were 1,222 hands employed in 20 smelting works; the works now number 41, and the hands employed, 3,061. The employment afforded in these trades has largely increased during late years, some large smelting-works having been erected in the state; while the business of some of the existing establishments has been extended. There has also been a large increase in the hands employed in making or repairing railway motors, carriages, and other appliances, the employees in 1892 numbering 2,586, and in 1900, 3,246. Of the latter, 3,098 were employed in the workshops connected with the state railways.

## Building Materials.

Industries directly or indirectly connected with the supply or preparation of building materials afford employment to a large number of persons, chiefly in saw-mills. The following table shows the hands employed during 1900:—

| Description of Works | Number of Establishments. | Average number of Hands employed. | | | | | | Machinery and other Plant. | |
|---|---|---|---|---|---|---|---|---|---|
| | | Managers and Overseers | Clerks, &c. | Engine-drivers, &c. | Workers in Factory, Mill, &c. | Carters, Messengers, &c. | Total. | Horse-power. | Value. |
| | | | | | | | | | £ |
| Asphalt | 6 | 6 | .. | 1 | 29 | 6 | 42 | 50 | 2,120 |
| Bricks | 157 | 193 | 35 | 48 | 1,164 | 95 | 1,535 | 1,689 | 130,096 |
| Joinery | 39 | 61 | 24 | 18 | 396 | 23 | 522 | 327 | 28,400 |
| Lime, plaster, and cement | 12 | 16 | 1 | 2 | 116 | 20 | 155 | 92 | 7,385 |
| Marble and monumental masonry | 25 | 35 | 6 | 3 | 184 | 7 | 235 | 49 | 4,305 |
| Modelling and pattern-making | 4 | 5 | .. | .. | 17 | 1 | 23 | .. | 1,900 |
| Paints and varnishes | 2 | 3 | 4 | 1 | 8 | 1 | 17 | 33 | 900 |
| Pottery and earthenware | 14 | 29 | 13 | 12 | 342 | 16 | 412 | 230 | 39,982 |
| Saw-mills | 269 | 359 | 154 | 260 | 2,114 | 407 | 3,294 | 5,499 | 242,900 |
| Stone-crushing | 8 | 12 | 6 | 14 | 110 | 45 | 187 | 305 | 17,650 |
| Stone-dressing and polishing | 5 | 6 | 2 | 5 | 106 | 5 | 124 | 54 | 7,200 |
| Wood-turning and carving | 15 | 15 | 2 | 3 | 66 | 4 | 90 | 84 | 5,310 |
| Total | 556 | 740 | 247 | 367 | 4,652 | 630 | 6,636 | 8,362 | 488,148 |

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The number of persons employed in the various timber districts, in saw-mills, etc., increased at a good rate from 1888 to 1892, but since the latter year has fallen off owing to the stagnation in the building trade, although the foundation of an export trade in timber has latterly kept the mills in some parts of the state going to their full capacity. The establishments in 1890–91 numbered 346, employing a total number of 3,788 persons, while in 1900 there were 269 mills, and the number of hands employed was 3,294. The capacity of plant in the latter year was 5,499 horse-power, and its value about £242,900. The number of saw-mills and hands employed and the capacity of the machinery during the past ten years were:—

| Year. | Saw-mills. | Hands employed. | Full capacity of machinery. |
|---|---|---|---|
| | No. | No. | h.-p. |
| 1890–91 | 346 | 3,788 | 5,735 |
| 1892 | 288 | 4,573 | 5,262 |
| 1893 | 283 | 3,266 | 4,452 |
| 1894 | 299 | 3,257 | 5,101 |
| 1895 | 315 | 3,402 | 5,709 |
| 1896 | 326 | 3,187 | 5,385 |
| 1897 | 303 | 3,062 | 5,377 |
| 1898 | 259 | 3,061 | 5,176 |
| 1899 | 259 | 3,004 | 5,130 |
| 1900 | 269 | 3,294 | 5,499 |

The industry of brickmaking has declined in importance, and now employs little more than three-fourths the hands of ten years ago. This is due to the suspension of large public works, and to the lessened activity of private builders. The following is a statement of the hands employed and the output for the last ten years:—

| Year. | Hands employed. | Bricks made. | Year. | Hands employed. | Bricks made. |
|---|---|---|---|---|---|
| | No. | thousands. | | No. | thousands. |
| 1890–91 | 2,018 | 184,862 | 1896 | 1,295 | 102,459 |
| 1892 | 1,504 | 115,293 | 1897 | 1,166 | 113,267 |
| 1893 | 1,357 | 105,442 | 1898 | 1,252 | 113,126 |
| 1894 | 1,242 | 92,113 | 1899 | 1,448 | 120,375 |
| 1895 | 1,211 | 99,587 | 1900 | 1,535 | 128,430 |

## Light and Heat.

The hands employed in establishments connected with lighting and heating showed a steady increase until 1892; but since that year the introduction of labour-saving machinery in gas-works and the substitution of the electric light for gas in different places has been responsible for a



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reduction in the number of hands employed. The following table shows the number of hands employed during the last ten years :—

| Year. | Hands. | Year. | Hands. |
|---|---|---|---|
| 1890–91 | 976 | 1896 | 859 |
| 1892 | 1,221 | 1897 | 938 |
| 1893 | 979 | 1898 | 935 |
| 1894 | 859 | 1899 | 987 |
| 1895 | 900 | 1900 | 1,083 |

The condition of employment in the various industries grouped in this class during 1900 was as follows :—

| Description of Works. | Number of Establishments. | Average number of Hands employed. | | | | | | Machinery and Plant. | |
|---|---|---|---|---|---|---|---|---|---|
| | | Managers and Overseers. | Clerks, &c. | Engine-drivers, &c. | Workers in Factory, Mill, &c. | Carters, Messengers, &c. | Total. | Horse-power. | Value. |
| | | | | | | | | | £ |
| Coke | 9 | 19 | 7 | 11 | 233 | 2 | 272 | 350 | 47,500 |
| Electric light | 33 | 37 | 4 | 37 | 103 | 10 | 191 | 3,961 | 110,051 |
| Gas | 41 | 49 | 36 | 59 | 418 | 58 | 620 | 1,101 | 690,357 |
| Total | 83 | 105 | 47 | 107 | 754 | 70 | 1,083 | 5,412 | 847,908 |

The majority of the hands, as will be seen, found employment in gas-works, of which there were 41 in operation during the year 1900, employing 620 hands. The quantity of gas manufactured was 2,007,054,000 cubic feet, to produce which about 191,000 tons of coal were used, giving an average of about 10,500 feet of gas for each ton of coal. The quantity of gas made during the past ten years was :—

| Year. | Thousand cubic feet of gas. | Year. | Thousand cubic feet of gas. |
|---|---|---|---|
| 1890–91 | 1,512,232 | 1896 | 1,816,613 |
| 1892 | 1,670,944 | 1897 | 1,824,691 |
| 1893 | 1,805,812 | 1898 | 1,788,218 |
| 1894 | 1,772,557 | 1899 | 1,883,002 |
| 1895 | 1,822,243 | 1900 | 2,007,054 |

The rate charged to consumers varies in different country localities between 3s. per 1,000 feet in Bathurst and 15s. in Broken Hill and Deniliquin, while the prices for street lighting range from £2 11s. per lamp per annum in Lithgow to £9 in Wagga Wagga. The price charged by the principal company to private consumers in Sydney and suburbs

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is at present 4s. per 1,000 feet, while the price for ordinary street lamps in the city is £4 per annum. There were, in the latter part of 1900, 10,277 ordinary and 112 80-candle power street lamps in Sydney and suburbs. The total consumption of gas in Sydney and suburbs during 1900 was 1,432,998,000 cubic feet, and in Melbourne and suburbs 1,096,271,000 cubic feet. From these figures it follows that the consumption per inhabitant in Sydney was 2,982 cubic feet, and in Melbourne, 2,260 cubic feet.

## Printing Trades.

The trades connected with printing and bookbinding are perhaps more keenly affected by general prosperity or depression than any other industry. The fluctuation in trade matters will be evident from the figures relating to employment in printing and allied works during the last ten years, which are given below. It will be seen that the number of hands employed in 1900 was the highest during the decade.

| Year. | Hands employed. | Year. | Hands employed. |
|---|---|---|---|
| 1890–91 | 4,200 | 1896 | 4,940 |
| 1892 | 4,494 | 1897 | 4,961 |
| 1893 | 4,138 | 1898 | 4,891 |
| 1894 | 4,284 | 1899 | 5,054 |
| 1895 | 4,731 | 1900 | 5,421 |

The following shows the subdivision of the hands for the year 1900:—

| Description of Works. | Number of Establishments. | Average number of Hands employed. | | | | | | Machinery and Plant. | |
|---|---|---|---|---|---|---|---|---|---|
| | | Managers and Overseers. | Clerks, &c. | Engine-drivers, &c. | Workers in Factory, Mill, &c. | Carters, Messengers, &c. | Total. | Horse-power. | Value. |
| | | | | | | | | | £ |
| Electrotyping and stereotyping | 3 | 5 | .. | .. | 20 | .. | 25 | 13 | 6,513 |
| Paper bags, boxes, etc. | 9 | 15 | 8 | 1 | 176 | 7 | 207 | 15 | 5,125 |
| Paper | 1 | 1 | 1 | 3 | 40 | 1 | 46 | 200 | 12,000 |
| Photo-engraving | 4 | 6 | 6 | 1 | 43 | 2 | 58 | 7 | 1,200 |
| Printing and bookbinding | 279 | 503 | 349 | 42 | 3,958 | 164 | 5,016 | 999 | 472,734 |
| Printing materials | 3 | 4 | 5 | .. | 58 | 2 | 69 | 21 | 10,850 |
| Total | 299 | 534 | 369 | 47 | 4,295 | 176 | 5,421 | 1,255 | 508,422 |

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## Vehicles and Saddlery.

The number of large establishments connected with the manufacture of vehicles and saddlery is not great, the average number of hands employed in all works being only ten. The following figures refer to 1900 :—

| Description of Works. | Number of Establishments. | Average number of Hands employed. | | | | | | Machinery and Plant. | |
|---|---|---|---|---|---|---|---|---|---|
| | | Managers and Overseers. | Clerks, &c. | Engine-drivers, &c. | Workers in Factory, Mill, &c. | Carters, Messengers, &c. | Total. | Horse-power. | Value. |
| | | | | | | | | | £ |
| Coaches and Waggons | 155 | 194 | 23 | 3 | 1,848 | 11 | 1,574 | 93 | 30,582 |
| Saddlery, Harness, Whips, &c. | 44 | 57 | 17 | 1 | 490 | 8 | 573 | 19 | 4,120 |
| Spokes | 5 | 8 | 4 | 3 | 17 | 3 | 35 | 40 | 1,500 |
| Bicycles | 11 | 13 | 4 | .. | 26 | 1 | 44 | 14 | 1,225 |
| Perambulators | 2 | 2 | .. | .. | 20 | .. | 22 | 1 | 300 |
| Total | 217 | 274 | 48 | 7 | 1,896 | 23 | 2,248 | 167 | 37,817 |

As already explained in the chapter treating of forestry, the timbers of the state are very suitable for coach and waggon building, and it is likely that the immediate future will see them more generally used for this purpose. There is room in New South Wales for the establishment of factories for the manufacture of wheels, which are at present largely imported from the United States ; and if they were conducted on American lines they would probably secure the whole of the Australasian trade.

## Ship and Boat Building.

During the year 1900, works connected with the building or refitting of ships employed 1,674 hands, by far the largest portion of whom were engaged in or about the port of Sydney. Nearly all the docks, too, are in Sydney, where is situated the Sutherland Dock, one of the largest single graving docks yet constructed. A more detailed description of the facilities existing in the state for the accommodation of shipping will be found in the chapter dealing with Shipping :—

| Description of Works. | Number of Establishments. | Average number of Hands employed. | | | | | | Machinery and Plant. | |
|---|---|---|---|---|---|---|---|---|---|
| | | Managers and Overseers. | Clerks, &c. | Engine-drivers, &c. | Workers in Factory, Mill, &c. | Carters, Messengers, &c. | Total. | Horse-power. | Value. |
| | | | | | | | | | £ |
| Docks and Slips | 8 | 18 | 19 | 18 | 1,279 | 88 | 1,422 | 1,026 | 182,684 |
| Sails, Tarpaulins and Tents | 10 | 10 | 4 | .. | 90 | 4 | 108 | 6 | 1,224 |
| Ship and Boat building and repairing | 11 | 19 | 5 | 4 | 115 | 1 | 144 | 53 | 7,086 |
| Total | 29 | 47 | 28 | 22 | 1,484 | 93 | 1,674 | 1,085 | 190,994 |

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## Furniture.

The furniture and allied trades now employ 682 hands more than they did in 1890–91. The numbers for the last ten years were :—

| Year. | Hands employed. | Year. | Hands employed. |
|---|---|---|---|
| 1890–91 | 1,234 | 1896 | 1,167 |
| 1892 | 1,048 | 1897 | 1,310 |
| 1893 | 637 | 1898 | 1,549 |
| 1894 | 794 | 1899 | 1,677 |
| 1895 | 772 | 1900 | 1,916 |

The decline in the number of hands was continuous from 1891 to 1893, but the figures for 1894 showed a satisfactory increase, and the labour conditions have greatly improved since that year. Included with the 1,317 hands engaged in making furniture are 528 Chinese. Formerly the number of these aliens occupied in the cabinet-making industry was larger, but the Chinese Restriction Act has effectually prevented the recruiting of hands for the shops employing them, and by putting a premium on their labour has enabled them, where they remained in the employment of the furniture factories, to obtain higher wages. Of late years there has been a marked tendency for the Chinese workmen to abandon their old employment, and combine in threes and fours for the purpose of establishing co-operative shops.

| Description of Works. | Number of Establishments. | Average number of Hands employed. | | | | | | Machinery and Plant. | |
|---|---|---|---|---|---|---|---|---|---|
| | | Managers and Overseers. | Clerks, &c. | Engine-drivers, &c. | Workers in Factory, Mill, &c. | Carters, Messengers, &c. | Total. | Horse-power. | Value. |
| | | | | | | | | | £ |
| Bedding, Flock, and Upholstery .. | 27 | 40 | 13 | 3 | 388 | 12 | 456 | 129 | 8,913 |
| Billiard Tables ..... | 2 | 4 | 1 | .. | 24 | .. | 29 | 3 | 850 |
| Furniture ..... | 75 | 103 | 12 | 8 | 1,166 | 28 | 1,317 | 333 | 15,415 |
| Picture Frames ..... | 7 | 8 | 6 | 1 | 65 | 4 | 84 | 6 | 715 |
| Window Blinds ..... | 4 | 6 | 1 | .. | 23 | .. | 30 | .. | 250 |
| Total ..... | 115 | 161 | 33 | 12 | 1,666 | 44 | 1,916 | 471 | 26,143 |

## Miscellaneous Industries.

Besides the industries already dealt with, there are numerous others not readily falling under any of the categories into which the manufactories have been grouped. These have been placed together in the following table, though there is little relation between any two there

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included. None of the industries, tobacco-manufacturing and soap and candle-making perhaps excepted, finds employment for any large number of hands; but many of them promise to develop into important interests, as there is an ample field for them in the state.

| Description of Works. | Number of Establishments. | Average number of Hands employed. | | | | | | Machinery and Plant. | |
|---|---|---|---|---|---|---|---|---|---|
| | | Managers and Overseers. | Clerks, &c. | Engine-drivers, &c. | Workers in Factory, Mill, &c. | Carters, Messengers, &c. | Total. | Horse-power. | Value. |
| | | | | | | | | | £ |
| Baskets and wickerware, mats and matting | 5 | 11 | 3 | 1 | 69 | 15 | 99 | 4 | 264 |
| Boxes and packing cases | 9 | 9 | 1 | 4 | 119 | 16 | 149 | 158 | 3,230 |
| Brooms and brushes | 15 | 18 | 5 | 1 | 132 | 5 | 161 | 24 | 2,535 |
| Catgut and Sausage-skins | 2 | 2 | .. | .. | 4 | 2 | 8 | .. | 10 |
| Chaff-cutting and corn-crushing | 41 | 51 | 7 | 27 | 175 | 25 | 285 | 377 | 15,500 |
| Chemicals, drugs, and patent medicines | 15 | 27 | 18 | 11 | 212 | 17 | 285 | 177 | 31,085 |
| Cooperage | 13 | 22 | 4 | 6 | 203 | 10 | 245 | 161 | 11,485 |
| Cutlery | 3 | 3 | .. | .. | 14 | 1 | 18 | 4 | 388 |
| Dye works | 5 | 7 | .. | .. | 31 | 1 | 39 | 6 | 540 |
| Electro-plating | 4 | 6 | 3 | 1 | 30 | .. | 40 | 28 | 3,800 |
| Fancy leather | 7 | 12 | .. | 2 | 59 | 3 | 76 | 27 | 1,585 |
| Glass (including bottles) | 8 | 14 | 4 | 7 | 223 | 8 | 256 | 11 | 7,780 |
| Glass (ornamental) | 7 | 8 | 7 | 2 | 90 | 6 | 113 | 35 | 3,800 |
| Jewellery (Manufacturing) | 8 | 8 | 2 | .. | 86 | 6 | 102 | 4 | 1,200 |
| Lamps | 3 | 4 | 4 | .. | 56 | .. | 64 | 1 | 1,080 |
| Pianos and organs | 2 | 4 | 10 | 2 | 102 | 5 | 123 | 13 | 2,800 |
| Portmanteaus | 3 | 4 | .. | .. | 27 | 8 | 39 | 1 | 255 |
| Rope and fishing-lines | 5 | 7 | 1 | 7 | 143 | 3 | 161 | 155 | 13,795 |
| Rubber Goods | 2 | 2 | .. | 2 | 19 | .. | 23 | 47 | 3,950 |
| Soap and candles | 43 | 54 | 17 | 14 | 230 | 36 | 351 | 818 | 123,433 |
| Surgical and other scientific instruments | 6 | 7 | 6 | .. | 40 | 2 | 55 | 10 | 1,950 |
| Tobacco, cigars, and cigarettes | 11 | 33 | 31 | 9 | 714 | 13 | 800 | 185 | 42,675 |
| Umbrellas | 3 | 3 | 2 | .. | 28 | .. | 33 | .. | 70 |
| Other Industries (consisting of single establishments) | 7 | 9 | 13 | 1 | 100 | 5 | 128 | 46 | 3,840 |
| Total | 227 | 325 | 138 | 97 | 2,906 | 187 | 3,653 | 2,297 | 277,750 |

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This table includes, under "Other Industries," one of each of the following:—Bee-hives, calico bags, explosives, horse and cattle medicines, leather belting, ostrich feathers, and revolving wooden shutters. These have been combined in order that particulars of the business of individual firms may not be disclosed.

Tallow being one of the staple products of the country, the manufacture of soap and candles, as might be expected, is firmly established. The quantity of toilet and fancy soap made, is, however, as yet but small, and in quality it is scarcely equal to that imported at lower prices. Common soap of local make is cheaper than the imported article, and being also much better, it usually commands the local market. The quantity made in 1890-91 was 143,520 cwt., as compared with 147,515 cwt. in 1900. The quantity of candles manufactured was 1,545,920 lb. in 1890–91, and 2,073,427 lb. in 1900, and the supply, including imports, was 5,977,917 lb. and 6,000,743 lb. respectively. The appended table shows the condition of the industry during the past ten years; the production seems to have fallen off since 1895. The quantities stated in the table are those returned by the manufacturers, and are given for what they are worth, but it is believed that the information for years previous to 1892 is not quite reliable.

| Year. | Factories. | Hands employed. | Quantities manufactured. | |
|---|---|---|---|---|
| | | | Soap. | Candles. |
| | No. | No. | cwt. | lb. |
| 1890–91 | 27 | 194 | 143,520 | 1,545,920 |
| 1892 | 21 | 257 | 110,360 | 3,304,130 |
| 1893 | 51 | 411 | 180,576 | 3,510,155 |
| 1894 | 49 | 467 | 204,623 | 4,785,109 |
| 1895 | 50 | 476 | 299,356 | 4,632,730 |
| 1896 | 43 | 379 | 150,373 | 3,734,050 |
| 1897 | 40 | 310 | 187,142 | 2,368,175 |
| 1898 | 35 | 276 | 139,983 | 2,312,778 |
| 1899 | 41 | 287 | 142,526 | 2,675,006 |
| 1900 | 43 | 351 | 147,515 | 2,073,427 |

The use of tobacco and cigarettes of local manufacture has, to a very large extent, superseded that of the imported articles. The amount of cigars made in the state is, on the other hand, very small compared with the total quantity consumed. In 1891 there were 55,985 lb. of leaf used in the local manufacture of cigarettes, while in 1900 the

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quantity had increased to 364,803 lb. The weight of each description of tobacco used in the state during 1900 amounted to :—

| Description. | Imported Manufactured. | Made in the state. | Total. |
|---|---|---|---|
| | lb. | lb. | lb. |
| Tobacco ..... | 859,069 | 2,045,932 | 2,905,001 |
| Cigars ..... | 209,353 | 50,168 | 259,521 |
| Cigarettes ..... | 71,357 | 364,803 | 436,160 |

A large amount of imported leaf is used in the manufacture of tobacco in the state, the proportion during 1900 being 1,558,970 lb. of imported leaf, chiefly American, to 901,933 lb. of New South Wales leaf. The quantity of each kind of tobacco made in the state, as well as the weight of leaf used in the manufacture, will be found in the following table. It will be seen from the table below that the quantity of locally-grown leaf used has declined from 1,403,240 lb. in 1891 to 901,933 lb. in 1900. As shown in the chapter on Agricultural Production, the acreage and production of tobacco have dwindled since 1897 from 2,744 acres, yielding 27,468 cwt. of leaf, to 199 acres with a return of only 1,905 cwt. for the agricultural year ended 31st March, 1901. The quantity of leaf given does not include stalks and stems, which are taken out in the process of manufacture. As ingredients other than tobacco leaf are known to be used in the making of tobacco, it is probable that the figures showing the quantity of locally-grown leaf used are too high. The proportion of leaf not used would be about 25 per cent. of the total weight.

| Year. | * Tobacco Leaf used. | | Quantity manufactured. | | |
|---|---|---|---|---|---|
| | New South Wales Leaf. | Imported Leaf. | Tobacco. | Cigars. | Cigarettes. |
| | lb. | lb. | lb. | lb. | lb. |
| 1891 | 1,403,240 | 639,148 | 1,982,991 | 3,412 | 55,985 |
| 1892 | 1,429,136 | 617,608 | 1,964,624 | 5,128 | 76,992 |
| 1893 | 1,284,582 | 597,482 | 1,776,560 | 480 | 105,024 |
| 1894 | 1,312,575 | 540,009 | 1,732,496 | 5,117 | 114,971 |
| 1895 | 1,334,924 | 636,287 | 1,833,744 | 1,024 | 136,443 |
| 1896 | 1,351,920 | 691,769 | 1,857,616 | 16,553 | 169,520 |
| 1897 | 1,229,821 | 876,231 | 1,902,284 | 14,761 | 189,007 |
| 1898 | 1,224,919 | 1,110,751 | 2,081,260 | 21,678 | 232,732 |
| 1899 | 1,273,673 | 1,167,417 | 2,123,196 | 29,295 | 288,509 |
| 1900 | 901,933 | 1,558,970 | 2,045,932 | 50,168 | 364,803 |

* Stalks and fibre of leaf removed.

## Government Employees.

The Government of the state is a very considerable factor in the labour market, as, in the middle of 1900, it had in its pay no less than 34,114 persons, excluding those temporarily engaged, and all persons

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who were merely entitled to receive fees from the public for services rendered. The police are included in these figures, but only such of the defence forces as are in receipt of regular salaries. Of the number given, less than 18,000 could be called civil servants in the sense in which the term is ordinarily employed. With employees of a permanent character should, perhaps, be included roads maintenance men, numbering approximately 906. If these had been included, the permanent employees of the state would be 35,020. As elsewhere pointed out, the Government of New South Wales undertakes many duties usually performed by local bodies; amongst these duties is, of course, the preservation of internal communication. The figures include employees in the Customs Department, the Postal and Electric Telegraph Department, and the Defence Department, which are now under the Federal authority.

The following table gives the distribution amongst the Departments in June, 1900:—

| Department. | Number. | Total. |
|---|---|---|
| Under Public Service Act:— | | |
| Chief Secretary | 971 | |
| Treasurer | 1,044 | |
| Attorney-General | 57 | |
| Lands | 700 | |
| Public Works | 971 | |
| Justice | 1,518 | |
| Public Instruction | 5,446 | |
| Mines and Agriculture | 234 | |
| Postmaster-General | 5,385 | |
| Office of Public Service Board | 36 | |
| | | 16,362 |
| Under Railway Commissioners | ..... | 14,087 |
| Under Boards of Water Supply and Sewerage:— | | |
| Metropolitan | 539 | |
| Hunter District | 48 | |
| | | 587 |
| Other Departments:— | | |
| Executive and Legislature | 86 | |
| Judges and Crown Prosecutors | 22 | |
| Mint | 43 | |
| Australian Museum | 19 | |
| Defence Forces (in receipt of regular salaries) | 760 | |
| Police | 2,148 | |
| | | 3,078 |
| Roads maintenance men | ..... | 906 |
| Total | ..... | 35,020 |

Persons in merely temporary employment are not included in these figures.

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## Steam Power.

The power used in the state for manufacturing, transporting, and other purposes is equivalent to 227,600 horse-power, or 168 horse-power for every thousand persons, a rate comparing not unfavourably with other countries, as will be seen from the subjoined statement, computed from Mulhall's *Dictionary of Statistics*:—

| Country. | Horse-power employed. | Per 1,000 of the population. |
|---|---|---|
| | thousands. | |
| United Kingdom | 9,200 | 250 |
| France | 4,520 | 110 |
| Germany | 6,200 | 130 |
| Russia | 2,240 | 30 |
| Austria | 2,150 | 50 |
| Italy | 830 | 30 |
| Spain | 740 | 40 |
| Belgium | 810 | 140 |
| Holland | 340 | 80 |
| United States | 14,400 | 240 |
| New South Wales | 228 | 168 |

The services for which the power is used are shown in the following table, from which it will be seen that land and water transport absorb 109,000 horse-power, or nearly 48 per cent. of the total horse-power employed. The information with regard to transport and manufactories is fairly exact, but is only approximate for the other industries:—

| Industries employing power. | Horse-power. |
|---|---|
| Transport, Land | 67,500 |
| Transport, Water | 41,500 |
| Manufactories, etc. | 35,800 |
| Agricultural, Pastoral, and Dairy Farming | 38,800 |
| Mining | 27,500 |
| Miscellaneous | 16,500 |
| Total | 227,600 |

New South Wales has few running streams so placed as to be available for the purpose of driving machinery for manufacturing purposes. By far the largest portion of the power used is, therefore, derived from steam; in some instances, chiefly in the metropolis, gas is employed; the other power used is in a few cases hydraulic or electric, while the balance comprises machinery worked by horses and cattle. In the table given below the number of establishments using machinery is shown, with the

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aggregate horse-power. By the term "full capacity" is understood the power capable of being generated by the boilers or machinery, and by the term "power actually used" the power required to work the processes:—

| Classification of Industries. | Number of Establishments using Machinery. | Full Capacity of Machinery. | | | Power actually used. | | |
|---|---|---|---|---|---|---|---|
| | | Steam. | Gas. | Other Power. | Steam. | Gas. | Other Power. |
| | | h.p. | h.p. | h.p. | h.p. | h.p. | h.p. |
| Treating Raw Material, the product of Pastoral Pursuits | 158 | 2,634 | ... | 12 | 1,996 | ... | 7 |
| Connected with Food and Drink, or the preparation thereof | 538 | 16,171 | 114 | 194 | 11,808 | 84 | 77 |
| Clothing and Textile Fabrics | 65 | 320 | 280 | ... | 248 | 227 | ... |
| Building Materials | 504 | 8,136 | 178 | 48 | 6,535 | 154 | 43 |
| Metal Works, Machinery, etc. | 227 | 10,726 | 89 | 10 | 6,936 | 67 | 10 |
| Ship-building, Repairing, etc. | 15 | 977 | 8 | 100 | 728 | 8 | 50 |
| Furniture, Bedding, etc. | 31 | 374 | 97 | ... | 215 | 82 | ... |
| Books, Paper, Printing, etc. | 160 | 892 | 333 | 30 | 577 | 257 | 23 |
| Vehicles, Saddlery, and Harness | 23 | 116 | 51 | ... | 112 | 41 | ... |
| Light, Fuel, and Heat | 68 | 5,399 | 12 | 1 | 3,974 | 10 | 1 |
| Other works | 139 | 2,159 | 138 | ... | 1,434 | 124 | ... |
| Total | 1,928 | 47,904 | 1,300 | 395 | 34,563 | 1,054 | 211 |

Returns regarding the employment of machinery in manufactories have been obtained for some few years, and the aggregate figures for each of the last ten years are given below. The figures for 1890–91 are approximate:—

| Year. | Horse-power of Machinery employed in Manufactories. |
|---|---|
| 1890–91 | 24,662 |
| 1892 | 28,061 |
| 1893 | 27,162 |
| 1894 | 29,197 |
| 1895 | 31,802 |
| 1896 | 33,253 |
| 1897 | 34,191 |
| 1898 | 32,968 |
| 1899 | 33,080 |
| 1900 | 35,628 |

The importance of the manufacturing industry to the coal-producer may be gathered from the fact that out of a total of 5,507,497 tons raised and 2,138,165 tons required for local consumption in 1900, 966,000 tons were used for manufacturing purposes, in addition to 190,000 tons consumed by gas-works.

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## Value of Production.

A detailed statement of the production from the manufacturing industry cannot be given every year, as the labour and expense involved in obtaining the information are very considerable. The next complete statement will be published after the returns of the census of 1901 have been fully investigated. The table below shows the total wages paid in the various classes of industry, together with the estimated value of production for each class during the year 1900 :—

| Class of Industry. | Establishments. | Total Wages paid. | Value of Articles produced, excluding Value of Material. |
|---|---|---|---|
| Raw Material, the product of Pastoral Pursuits. | 179 | 245,908 | 745,257 |
| Connected with Food and Drink or the preparation thereof. | 575 | 765,596 | 2,065,947 |
| Clothing and Textile Fabrics | 500 | 651,092 | 950,839 |
| Building Materials | 556 | 679,536 | 1,060,480 |
| Metal Works, Machinery, etc. | 297 | 1,237,132 | 2,353,121 |
| Ship-building, Repairing, etc. | 29 | 184,080 | 304,142 |
| Furniture, Bedding, etc. | 115 | 157,040 | 240,632 |
| Books, Paper, Printing, Engraving, etc. | 299 | 465,608 | 1,047,698 |
| Vehicles, Harness, and Saddlery | 217 | 174,564 | 264,590 |
| Light, Fuel, and Heat | 86 | 139,048 | 346,200 |
| Miscellaneous | 227 | 274,612 | 500,074 |
| Total | 3,077 | 4,974,216 | 9,872,980 |

The value of the production of the manufacturing industry has been estimated for 1880 and some succeeding years, and is shown in the following table :—

| Year. | Value of Production. |
|---|---|
| | £ |
| 1880 | 4,437,700 |
| 1885 | 6,296,000 |
| 1890 | 7,615,000 |
| 1892 | 7,798,786 |
| 1894 | 6,880,200 |
| 1895 | 7,005,600 |
| 1896 | 7,963,500 |
| 1897 | 8,078,900 |
| 1898 | 8,079,700 |
| 1900 | 9,872,980 |

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The decline in the total value shown in some years is due to the fall in the prices of products, and not to a decrease in the output. The highest value was reached in 1900, with £9,872,980. This value was in excess of that of 1892 by £2,074,000, but had the 1892 prices prevailed in 1900 the increase would have been somewhat less.

The employment and production alluded to in the preceding pages refer to establishments classed for statistical purposes as manufactories. Besides the 60,779 hands accounted for in the tables, there are others actually engaged in manufacturing processes who are not included. These comprise persons working on their own account at home, or in establishments too small to be properly designated as manufactories. In the foregoing pages a manufactory has been considered to be an establishment using steam, or, when steam is not used, where four or more hands are usually employed. It is estimated that there are 6,105 males and 10,872 females who are thus excluded from classification. The males comprise tailors and shoemakers working in their own homes or in companies of less than four; and wheelwrights, blacksmiths, saddlers, and other workers of the same type, whose establishments are principally repairing shops, such as are found in every village of the state. The females are mainly seamstresses, milliners, and dressmakers; and from their numbers it will be seen that the women working outside the factories are a far more important body than the hands employed within those establishments.

The total number of persons engaged in the various manufacturing processes may, therefore, be set down at 78,000, and the value of their production at £10,696,800, which includes £823,800, the value of the work of the hands not included in the returns of factories. These are the figures which will be quoted in the remaining tables of this chapter.

## Importation of Labour.

Since the cessation of assisted immigration by the state there has been very little labour imported by the capitalists and manufacturers of the state; in fact, almost all the artisans and labourers who have arrived here within the last few years have been those who have left the other Australasian provinces in the hope of improving their position in New South Wales. The question of the importation of labour has not been largely dealt with by legislation in this state. The chief enactment on the subject is the Agreements Validating Act, 39 Vic. No. 29, which provides that agreements made in any place beyond the state for a period of service not exceeding two years shall be as binding and effectual as though they had been entered into within the state, provided that the contract or agreement shall have been made and subscribed to in the presence of some officer duly authorised in that behalf by the Governor and Executive Council of New South Wales.

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## WAGES.

In New South Wales, as in most other Australian states, the rapid settlement of the country created a demand for labour of all kinds which could not be satisfied except by a constant accession of labourers from other countries. This demand, which was continuous for many years, resulted in the establishment of a rate of wages much higher than is ordinarily found in older lands. During 1892, however, with the depression in trade there came a partial reduction in wages, and in 1893 and the two following years this became general. In the appended tables information is given for the year 1900 respecting the ages, number, and average weekly wage of male and female employees in metropolitan factories under the operation of the Factories Act. Full particulars in regard to rates of wages ruling in the various industries for the whole state will be found in Part "Industrial Wages" of the "Statistical Register" for the year 1900. The average rates of representative trades from the year 1823 to the present time will be found mentioned in succeeding pages. In the numerous instances in which work is done and paid for as piecework, weekly rates of wages have been calculated on the assumption that a week is equal to forty-eight hours' work, and the rates quoted show, therefore, the amount of wages which would be earned by workmen doing a full week's work.

MALES.

| Class of Trade. | — | 13 years. | 14 years. | 15 years. | 16 years. | 17 years. | 18 years. | Over 18 years. | Total Males. |
|---|---|---|---|---|---|---|---|---|---|
| **No. 1.—Treating Raw Material, the Product of Pastoral Pursuits.** | | | | | | | | | |
| Candles, Soap, Tallow Works, &c. .. .. | No. of Employees. | .... | 6 | 8 | 7 | 4 | 5 | 122 | 152 |
| | Average Weekly Wage | .... | £ s. d. 0 6 5 | £ s. d. 0 7 0 | £ s. d. 0 13 0 | £ s. d. 0 12 9 | £ s. d. 1 3 7 | £ s. d. 1 16 7 | £ s. d. 1 11 9 |
| Fellmongery .. .. | do | .... | 2 | 2 | 3 | 2 | 6 | 281 | 296 |
| | | .... | £ s. d. 0 10 6 | £ s. d. 0 9 9 | £ s. d. 0 10 10 | £ s. d. 0 12 0 | £ s. d. 1 0 2 | £ s. d. 1 17 1 | £ s. d. 1 16 0 |
| Manure (Chemical), Bone Mills, Desiccating Works, Glue, &c. | do | .... | 1 | 5 | 12 | 8 | 11 | 187 | 224 |
| | | .... | £ s. d. 0 8 0 | £ s. d. 0 9 8 | £ s. d. 0 12 5 | £ s. d. 0 15 4 | £ s. d. 0 15 8 | £ s. d. 1 17 3 | £ s. d. 1 13 4 |
| Tanneries .. .. | do | .... | 3 | 6 | 18 | 15 | 13 | 394 | 449 |
| | | .... | £ s. d. 0 11 2 | £ s. d. 0 8 4 | £ s. d. 0 11 11 | £ s. d. 0 14 10 | £ s. d. 0 18 9 | £ s. d. 1 18 2 | £ s. d. 1 15 2 |
| Woolwashing .. .. | do | .... | 2 | 3 | 5 | 12 | 3 | 386 | 411 |
| | | .... | £ s. d. 0 13 0 | £ s. d. 0 13 8 | £ s. d. 0 12 10 | £ s. d. 1 4 5 | £ s. d. 1 3 3 | £ s. d. 1 19 1 | £ s. d. 1 17 7 |

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## MALES.

| Class of Trade. | — | 13 years. | 14 years. | 15 years. | 16 years. | 17 years. | 18 years. | Over 18 years. | Total Males. |
|---|---|---|---|---|---|---|---|---|---|
| **No. 2.—Connected with Food and Drink, or the Preparation thereof** | | | | | | | | | |
| Aerated Waters, &c... | No. of Employees. | .... | 4 | 9 | 21 | 34 | 33 | 295 | 396 |
| | Average Weekly Wage | .... | £ s. d. 0 8 10 | £ s. d. 0 10 1 | £ s. d. 0 10 0 | £ s. d. 0 11 5 | £ s. d. 0 14 11 | £ s. d. 1 13 4 | £ s. d. 1 7 11 |
| Bacon .. .. .. | do | .... | .... | .... | 2 | 3 | .... | 45 | 50 |
| | | .... | .... | .... | £ s. d. 0 11 3 | £ s. d. 1 4 6 | .... | £ s. d. 2 3 6 | £ s. d. 2 1 1 |
| Biscuits .. .. | do | .... | 2 | 8 | 21 | 15 | 4 | 70 | 120 |
| | | .... | £ s. d. 0 8 0 | £ s. d. 0 8 11 | £ s. d. 0 7 10 | £ s. d. 0 10 10 | £ s. d. 0 11 9 | £ s. d. 1 19 9 | £ s. d. 1 17 1 |
| Bread .. .. .. | do | .... | 2 | 2 | 13 | 36 | 20 | 745 | 818 |
| | | .. . | £ s. d. 0 7 6 | £ s. d. 0 13 9 | £ s. d. 0 10 9 | £ s. d. 0 12 3 | £ s. d. 0 16 8 | £ s. d. 2 0 2 | £ s. d. 1 18 5 |
| Breweries, Bottling Ale, &c. .. .. | do | .... | 6 | 11 | 21 | 27 | 16 | 435 | 516 |
| | | .... | £ s. d. 0 8 8 | £ s. d. 0 12 1 | £ s. d. 0 10 5 | £ s. d. 0 14 6 | £ s. d. 0 14 4 | £ s. d. 1 19 7 | £ s. d. 1 15 4 |
| Butchers, Small Goods, &c. .. .. | do | .... | .... | 3 | 2 | 2 | 1 | 143 | 151 |
| | | .... | .... | £ s. d. 0 12 0 | £ s. d. 0 7 6 | £ s. d. 0 13 6 | £ s. d. 1 0 0 | £ s. d. 1 19 5 | £ s. d. 1 18 0 |
| Confectionery .. | do | 3 | 22 | 36 | 48 | 18 | 15 | 180 | 322 |
| | | £ s. d. 0 7 4 | £ s. d. 0 7 2 | £ s. d. 0 7 4 | £ s. d. 0 7 11 | £ s. d. 0 10 2 | £ s. d. 0 13 1 | £ s. d. 1 13 0 | £ s. d. 1 2 2 |
| Flour Mills .. .. | do | .... | 1 | 2 | 7 | 12 | 3 | 148 | 173 |
| | | .... | £ s. d. 0 7 6 | £ s. d. 0 11 0 | £ s. d. 0 10 4 | £ s. d. 0 12 2 | £ s. d. 0 14 2 | £ s. d. 2 1 8 | £ s. d. 1 17 4 |
| Grocers' Sundries, Maizena, Spice, &c. | do | .... | 13 | 30 | 41 | 16 | 20 | 202 | 322 |
| | | .... | £ s. d. 0 6 0 | £ s. d. 0 7 0 | £ s. d. 0 8 6 | £ s. d. 0 9 6 | £ s. d. 0 12 9 | £ s. d. 1 15 1 | £ s. d. 1 5 3 |
| Jams, Preserves, Jellies, Pickles, Sauces, &c... .. | do | ... | 8 | 30 | 43 | 53 | 15 | 248 | 397 |
| | | .... | £ s. d. 0 8 1 | £ s. d. 0 8 8 | £ s. d. 0 8 11 | £ s. d. 0 9 5 | £ s. d. 0 13 3 | £ s. d. 1 9 6 | £ s. d. 1 1 11 |
| Meat Preserving .. | do | 1 | 15 | 17 | 43 | 39 | 25 | 459 | 599 |
| | | £ s. d. 0 8 0 | £ s. d. 0 9 8 | £ s. d. 0 10 2 | £ s. d. 0 12 8 | £ s. d. 0 15 6 | £ s. d. 1 0 0 | £ s. d. 1 19 9 | £ s. d. 1 13 9 |
| Pastry .. .. .. | do | .... | .... | 9 | 7 | 7 | 8 | 194 | 225 |
| | | .... | .... | £ s. d. 0 9 7 | £ s. d. 0 11 0 | £ s. d. 0 13 1 | £ s. d. 1 2 4 | £ s. d. 1 12 8 | £ s. d. 1 10 1 |
| Refrigerating and Ice | do | .... | 8 | 4 | 4 | 8 | .... | 414 | 438 |
| | | .... | £ s. d. 0 10 8 | £ s. d. 0 9 4 | £ s. d. 0 15 0 | £ s. d. 0 13 1 | .... | £ s. d. 1 19 5 | £ s. d 1 17 11 |
| Sugar-refining .. | do | .... | 5 | 12 | 24 | 19 | 14 | 483 | 557 |
| | | .... | £ s. d. 0 8 0 | £ s. d. 0 7 11 | £ s. d. 0 12 7 | £ s. d. 0 14 8 | £ s. d. 0 16 4 | £ s. d. 2 6 11 | £ s. d. 2 2 4 |
| Tea Packing .. .. | do | .... | 4 | 17 | 16 | 14 | 10 | 70 | 131 |
| | | .... | £ s. d. 0 6 4 | £ s. d. 0 7 2 | £ s. d. 0 9 11 | £ s. d. 0 11 11 | £ s. d. 0 13 4 | £ s. d. 1 12 11 | £ s. d. 1 2 3 |

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MALES.

| Class of Trade. | — | 13 years. | 14 years. | 15 years. | 16 years. | 17 years. | 18 years. | Over 18 years. | Total Males. |
|---|---|---|---|---|---|---|---|---|---|
| **No. 3.—Clothing and Textile Fabrics.** | | | | | | | | | |
| Boots and Shoes .. | No. of Employees. | 5 | 80 | 157 | 128 | 102 | 64 | 1,781 | 2,317 |
| | Average Weekly Wage | £ s. d. 0 5 2 | £ s. d. 0 5 10 | £ s. d. 0 7 1 | £ s. d. 0 9 6 | £ s. d. 0 12 11 | £ s. d. 0 17 10 | £ s. d. 1 13 10 | £ s. d. 1 8 4 |
| Clothing .. .. | do | .... | 11 | 21 | 23 | 22 | 17 | 421 | 515 |
| | do | .... | £ s. d. 0 5 7 | £ s. d. 0 6 8 | £ s. d. 0 8 5 | £ s. d. 0 9 7 | £ s. d. 0 13 5 | £ s. d. 2 3 6 | £ s. d. 1 17 3 |
| Drapery .. .. | do | .... | .... | 2 | 7 | 5 | 1 | 59 | 74 |
| | do | .... | .... | £ s. d. 0 5 0 | £ s. d. 0 6 10 | £ s. d. 0 7 6 | £ s. d. 0 15 0 | £ s. d. 2 1 8 | £ s. d. 1 14 8 |
| Dressmaking .. .. | do | .... | .... | 2 | .... | .... | .... | 12 | 14 |
| | do | .... | .... | £ s. d. 0 6 6 | .... | .... | .... | £ s. d. 2 13 5 | £ s. d. 2 6 8 |
| Furriers .. .. | do | .... | .... | .... | 1 | .... | .... | 12 | 13 |
| | do | .... | .... | .... | £ s. d. 0 10 0 | .... | .... | £ s. d. 1 12 8 | £ s. d. 1 10 11 |
| Hats and Caps .. | do | .... | 2 | 3 | 8 | 7 | 2 | 50 | 72 |
| | do | .... | £ s. d. 0 6 3 | £ s. d. 0 6 8 | £ s. d. 0 9 1 | £ s. d. 0 9 6 | £ s. d. 0 18 9 | £ s. d. 1 13 11 | £ s. d. 1 6 3 |
| Shirtmaking .. .. | do | .... | .... | .... | .... | 1 | .... | 19 | 20 |
| | do | .... | .... | .... | .... | £ s. d. 0 10 0 | .... | £ s. d. 2 6 7 | £ s. d. 2 4 9 |
| Underclothing .. | do | .... | 1 | 2 | 1 | 1 | 3 | 14 | 22 |
| | do | .... | £ s. d. 0 6 0 | £ s. d. 0 8 9 | £ s. d. 0 3 6 | £ s. d. 0 10 0 | £ s. d. 0 9 3 | £ s. d. 1 11 10 | £ s. d. 1 3 2 |
| Waterproof Clothing | do | .... | .... | 5 | .... | .... | .... | 12 | 17 |
| | do | .... | .... | £ s. d. 0 7 0 | .... | .... | .... | £ s. d. 2 3 4 | £ s. d. 1 12 8 |
| Woollen Mills.. .. | do | .... | 1 | 7 | 7 | 5 | .... | 45 | 65 |
| | do | .... | £ s. d. 0 6 6 | £ s. d. 0 6 10 | £ s. d. 0 8 5 | £ s. d. 0 11 5 | .... | £ s. d. 1 7 4 | £ s. d. 1 1 7 |
| **No. 4.—Building Materials.** | | | | | | | | | |
| Asphalt .. .. | do | .... | .... | .... | .... | .... | .... | 23 | 23 |
| | do | .... | .... | .... | .... | .... | .... | £ s. d. 1 19 5 | £ s. d. 1 19 5 |
| Blinds (Venetian, &c). | do | .... | 1 | .... | 1 | 1 | 1 | 28 | 32 |
| | do | .... | £ s. d. 0 8 0 | .... | £ s. d. 0 7 6 | £ s. d. 0 15 0 | £ s. d. 0 10 0 | £ s. d. 1 14 11 | £ s. d. 1 11 10 |
| Bricks .. .. .. | do | .... | 4 | 12 | 25 | 31 | 18 | 752 | 842 |
| | do | .... | £ s. d. 0 8 3 | £ s. d. 0 10 8 | £ s. d. 0 11 5 | £ s. d. 0 13 11 | £ s. d. 0 19 2 | £ s. d. 2 5 6 | £ s. d. 2 2 0 |
| Bricklayers and Labourers .. .. | do | .... | .... | .... | .... | .... | .... | 53 | 53 |
| | do | .... | .... | .... | .... | .... | .... | £ s. d. 2 14 10 | £ s. d. 2 14 10 |
| Carpenters' and Joiners' Works, Saw-mills, &c. .. | do | 2 | 3 | 17 | 30 | 27 | 40 | 766 | 885 |
| | do | £ s. d. 0 5 0 | £ s. d. 0 7 4 | £ s. d. 0 8 5 | £ s. d. 0 9 7 | £ s. d. 0 12 9 | £ s. d. 0 16 9 | £ s. d. 2 3 8 | £ s. d. 1 19 6 |
| Cement .. .. | do | .... | .... | .... | .... | .... | 1 | 2 | 3 |
| | do | .... | .... | .... | .... | .... | £ s. d. 0 16 0 | £ s. d. 1 7 0 | £ s. d. 1 3 4 |

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| Class of Trade. | — | 13 years. | 14 years. | 15 years. | 16 years. | 17 years. | 18 years. | Over 18 years. | Total Males. |
|---|---|---|---|---|---|---|---|---|---|
| **No. 4.—Building Materials—(*continued*).** | | | | | | | | | |
| Mantelpieces and Overmantels .. | No. of Employees. | .... | .... | .... | 3 | 2 | 4 | 11 | 20 |
| | Average Weekly Wage | .... | .... | .... | £ s. d. 0 11 4 | £ s. d. 0 12 0 | £ s. d. 0 10 8 | £ s. d. 1 16 8 | £ s. d. 1 5 2 |
| Marble and Masons' Work .. .. | do | .... | 4 | 5 | 5 | 8 | 6 | 187 | 215 |
| | | .... | £ s. d. 0 7 2 | £ s. d. 0 10 9 | £ s. d. 0 10 8 | £ s. d. 0 13 9 | £ s. d. 0 11 8 | £ s. d. 2 0 4 | £ s. d. 1 16 6 |
| Modelling .. .. | do | .... | .... | .... | .... | .... | 2 | 12 | 14 |
| | | .... | .... | .... | .... | .... | £ s. d. 0 12 6 | £ s. d. 2 1 11 | £ s. d. 1 17 9 |
| Paints, Varnish, White Lead, Plaster of Paris, &c. | do | 1 | .... | .... | .... | 2 | .... | 10 | 13 |
| | | £ s. d. 0 5 0 | .... | .... | .... | £ s. d. 0 7 6 | .... | £ s. d. 1 17 10 | £ s. d. 1 10 8 |
| Pottery .. .. | do | .... | 2 | 7 | 15 | 12 | 8 | 165 | 209 |
| | | .... | £ s. d. 0 8 6 | £ s. d. 0 7 7 | £ s. d. 0 9 5 | £ s. d. 1 0 4 | £ s. d. 1 10 0 | £ s. d. 1 16 5 | £ s. d. 1 11 8 |
| **No. 5.—Metal Works, Machinery, &c.** | | | | | | | | | |
| Farrieries .. .. | do | .... | 3 | 2 | 9 | 6 | 4 | 92 | 116 |
| | | .... | £ s. d. 0 6 0 | £ s. d. 0 6 3 | £ s. d. 0 9 3 | £ s. d. 0 9 11 | £ s. d. 0 15 7 | £ s. d. 1 17 11 | £ s. d. 1 12 0 |
| Foundries, Machinery, Iron, Copper Works, Tools, &c. | do | 2 | 40 | 102 | 246 | 223 | 193 | 3,177 | 3,983 |
| | | £ s. d. 0 6 0 | £ s. d. 0 6 1 | £ s. d. 0 7 10 | £ s. d. 0 8 2 | £ s. d. 0 10 9 | £ s. d. 0 14 11 | £ s. d. 2 2 4 | £ s. d. 1 15 10 |
| Lead Mills ..... | do | .... | .... | .... | .... | .... | .... | 11 | 11 |
| | | .... | .... | .... | .... | .... | .... | £ s. d. 2 2 9 | £ s. d. 2 2 9 |
| Plumbing ..... | do | .... | 7 | 19 | 47 | 37 | 17 | 397 | 524 |
| | | .... | £ s. d. 0 4 11 | £ s. d. 0 6 3 | £ s. d. 0 7 11 | £ s. d. 0 10 8 | £ s. d. 0 13 6 | £ s. d. 2 5 0 | £ s. d. 1 16 3 |
| Metallurgical Works | do | .... | .... | .... | .... | .... | 1 | 25 | 26 |
| | | .... | .... | .... | .... | .... | £ s. d. 1 2 6 | £ s. d. 2 5 2 | £ s. d. 2 4 4 |
| Tinsmithing ..... | do | 2 | 14 | 14 | 28 | 17 | 21 | 149 | 245 |
| | | £ s. d. 0 7 6 | £ s. d. 0 6 4 | £ s. d. 0 7 1 | £ s. d. 0 12 0 | £ s. d. 0 11 9 | £ s. d. 0 16 2 | £ s. d. 1 10 9 | £ s. d. 1 3 1 |
| Wire-working ..... | do | .... | .... | 5 | 21 | 32 | 4 | 126 | 188 |
| | | .... | .... | £ s. d. 0 8 7 | £ s. d. 0 10 7 | £ s. d. 0 11 1 | £ s. d. 0 12 9 | £ s. d. 2 1 10 | £ s. d. 1 11 7 |
| **No. 6.—Shipbuilding, Repairing, &c.** | | | | | | | | | |
| Docks and Slips..... | do | .... | .... | .... | 21 | 41 | 25 | 1,186 | 1,273 |
| | | .... | .... | .... | £ s. d. 0 7 10 | £ s. d. 0 9 9 | £ s. d. 0 10 1 | £ s. d. 2 5 6 | £ s. d. 2 3 0 |
| Shipbuilding and repairing..... | do | .... | .... | 3 | 4 | 7 | 10 | 117 | 141 |
| | | .... | .... | £ s. d. 0 5 0 | £ s. d. 0 7 0 | £ s. d. 0 10 4 | £ s. d. 0 19 8 | £ s. d. 2 7 11 | £ s. d. 2 1 11 |
| Quarrymen, &c., building Mort's Dock.... | do | .... | 1 | 3 | 1 | 1 | 3 | 135 | 144 |
| | | .... | £ s. d. 0 6 0 | £ s. d. 0 12 2 | £ s. d. 0 12 0 | £ s. d. 0 1 4 | £ s. d. 0 0 18 | £ s. d. 8 2 12 | £ s. d. 4 2 10 0 |
| Sails, Tents, &c..... | do | .... | 1 | 3 | 2 | 7 | 3 | 52 | 68 |
| | | .... | £ s. d. 0 5 0 | £ s. d. 0 7 6 | £ s. d. 0 12 6 | £ s. d. 0 7 9 | £ s. d. 0 9 10 | £ s. d. 1 14 1 | £ s. d. 1 8 1 |



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MALES.

| Class of Trade. | — | 13 years. | 14 years. | 15 years. | 16 years. | 17 years. | 18 years. | Over 18 years. | Total Males. |
|---|---|---|---|---|---|---|---|---|---|
| **No. 7.—Furniture, Bedding, &c.** | | | | | | | | | |
| Bedsteads, Fenders, &c. | No. of Employees. | .... | .... | .... | 3 | .... | .... | 7 | 10 |
| | Average Weekly Wage | .... | .... | .... | £ s. d. 0 8 4 | .... | .... | £ s. d. 1 16 5 | £ s. d. 1 6 0 |
| Flock Mills | do | .... | .... | .... | .... | .... | 1 | 1 | 2 |
| | | .... | .... | .... | .... | .... | £ s. d. 0 17 6 | £ s. d. 1 2 6 | £ s. d. 1 0 0 |
| Furniture (Chinese) | do | .... | .... | .... | .... | .... | 1 | 447 | 448 |
| | | .... | .... | .... | .... | .... | £ s. d. 1 0 0 | £ s. d. 1 11 4 | £ s. d. 1 11 4 |
| Furniture (European) | do | 2 | 11 | 18 | 42 | 37 | 30 | 466 | 606 |
| | | £ s. d. 0 6 0 | £ s. d. 0 6 5 | £ s. d. 0 7 2 | £ s. d. 0 9 9 | £ s. d. 0 12 0 | £ s. d. 0 13 7 | £ s. d. 2 1 5 | £ s. d. 1 14 3 |
| Picture Frames | do | .... | 1 | 2 | 2 | 1 | .... | 14 | 20 |
| | | .... | £ s. d. 0 7 6 | £ s. d. 0 6 3 | £ s. d. 0 10 0 | £ s. d. 0 10 0 | .... | £ s. d. 1 16 2 | £ s. d. 1 7 10 |
| Upholstery | do | .... | .... | .... | .... | 2 | .... | 17 | 19 |
| | | .... | .... | .... | .... | £ s. d. 0 7 9 | .... | £ s. d. 2 11 9 | £ s. d. 2 7 1 |
| **No. 8.—Books, Paper, Printing, &c.** | | | | | | | | | |
| Envelopes, Paper-boxes, Bags, &c. | do | .... | 9 | 9 | 8 | 3 | 3 | 26 | 58 |
| | | .... | £ s. d. 0 6 10 | £ s. d. 0 7 5 | £ s. d. 0 9 6 | £ s. d. 0 10 4 | £ s. d. 0 14 2 | £ s. d. 1 16 6 | £ s. d. 1 1 2 |
| Paper Patterns | do | .... | .... | .... | 2 | 1 | .... | 1 | 4 |
| | | .... | .... | .... | £ s. d. 0 5 9 | £ s. d. 1 0 0 | .... | £ s. d. 2 10 0 | £ s. d. 1 0 4 |
| Printing and Book-binding | do | 9 | 67 | 81 | 124 | 101 | 59 | 1,480 | 1,921 |
| | | £ s. d. 0 6 4 | £ s. d. 0 6 10 | £ s. d. 0 7 3 | £ s. d. 0 8 6 | £ s. d. 0 10 11 | £ s. d. 0 14 2 | £ s. d. 2 5 5 | £ s. d. 1 17 2 |
| **No. 9.—Vehicles, Saddlery, and Harness.** | | | | | | | | | |
| Carriages, Waggons, Drays, &c. | do | .... | 6 | 22 | 35 | 39 | 18 | 512 | 632 |
| | | .... | £ s. d. 0 5 2 | £ s. d. 0 5 7 | £ s. d. 0 8 7 | £ s. d. 0 10 0 | £ s. d. 0 12 1 | £ s. d. 1 14 5 | £ s. d. 1 9 9 |
| Cycles | do | .... | .... | 2 | 4 | 8 | 4 | 69 | 87 |
| | | .... | .... | £ s. d. 0 6 3 | £ s. d. 0 9 3 | £ s. d. 0 10 1 | £ s. d. 0 11 3 | £ s. d. 1 18 9 | £ s. d. 1 12 9 |
| Harness, Saddles, &c. | do | 1 | 6 | 13 | 19 | 16 | 11 | 263 | 329 |
| | | £ s. d. 0 5 0 | £ s. d. 0 5 9 | £ s. d. 0 7 10 | £ s. d. 0 7 6 | £ s. d. 0 10 3 | £ s. d. 0 14 10 | £ s. d. 1 15 4 | £ s. d. 1 10 1 |
| Perambulators | do | .... | .... | 3 | .... | 1 | 3 | 4 | 11 |
| | | .... | .... | £ s. d. 0 7 8 | .... | £ s. d. 0 12 6 | £ s. d. 0 19 8 | £ s. d. 1 15 3 | £ s. d. 1 1 5 |
| Wheelwrights | do | .... | .... | .... | 4 | 5 | 4 | 57 | 70 |
| | | .... | .... | .... | £ s. d. 0 5 6 | £ s. d. 0 9 8 | £ s. d. 0 11 3 | £ s. d. 1 17 1 | £ s. d. 1 11 10 |

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MALES.

| Class of Trade. | — | 13 years. | 14 years. | 15 years. | 16 years. | 17 years. | 18 years. | Over 18 years. | Total Males. |
|---|---|---|---|---|---|---|---|---|---|
| **No. 10.—Light, Fuel, and Heat.** | | | | | | | | | |
| Electric Light, Batteries, &c. .. .. | No. of Employees. | .... | 1 | 4 | 12 | 14 | 8 | 136 | 175 |
| | Average Weekly Wage | .... | £ s. d. 0 5 0 | £ s. d. 0 3 2 | £ s. d. 0 3 7 | £ s. d. 0 7 11 | £ s. d. 0 10 8 | £ s. d. 2 4 6 | £ s. d. 1 16 0 |
| Gas .. .. .. | do | .... | 1 | 1 | 2 | 1 | 1 | 1,000 | 1,006 |
| | | .... | £ s. d. 0 10 0 | £ s. d. 0 10 0 | £ s. d. 0 10 0 | £ s. d. 0 12 0 | £ s. d. 0 10 0 | £ s. d. 2 3 6 | £ s. d. 2 3 3 |
| Wood and Coal .. | do | .... | .... | .... | .... | 3 | 1 | 44 | 48 |
| | | .... | .... | .... | .... | £ s. d. 1 1 8 | £ s. d. 0 16 0 | £ s. d. 1 12 11 | £ s. d. 1 11 11 |
| **No. 11.—Miscellaneous.** | | | | | | | | | |
| Asbestos .. .. | do | .... | .... | .... | .... | .... | .... | 1 | 1 |
| | | .... | .... | .... | .... | .... | .... | £ s. d. 2 0 0 | £ s. d. 2 0 0 |
| Billiard Tables .. | do | .... | 1 | .... | 2 | 1 | .... | 15 | 19 |
| | | .... | £ s. d. 0 16 0 | .... | £ s. d. 0 8 9 | £ s. d. 0 7 6 | .... | £ s. d. 2 8 0 | £ s. d. 1 19 6 |
| Brushes, Brooms (except Millet Brooms) and Bellows, &c. .. | do | .... | 1 | 4 | 7 | 5 | 3 | 36 | 56 |
| | | .... | £ s. d. 0 5 6 | £ s. d. 0 6 9 | £ s. d. 0 10 0 | £ s. d. 0 10 7 | £ s. d. 0 14 0 | £ s. d. 1 16 0 | £ s. d. 1 6 8 |
| Chaff-cutting and Grain-crushing .. | do | .... | .... | .... | .... | 1 | 1 | 50 | 52 |
| | | .... | .... | .... | .... | £ s. d. 0 10 0 | £ s. d. 1 7 6 | £ s. d. 1 14 4 | £ s. d. 1 13 9 |
| Chemicals .. .. | do | 2 | 14 | 21 | 17 | 31 | 19 | 264 | 368 |
| | | £ s. d. 0 11 3 | £ s. d. 0 7 3 | £ s. d. 0 8 7 | £ s. d. 0 9 0 | £ s. d. 0 11 10 | £ s. d. 0 13 8 | £ s. d. 1 15 5 | £ s. d. 1 8 4 |
| Cigars .. .. .. | do | 1 | .... | 7 | 5 | 5 | .... | 60 | 78 |
| | | £ s. d. 0 5 0 | .... | £ s. d. 0 11 7 | £ s. d. 0 7 0 | £ s. d. 0 11 2 | .... | £ s. d. 2 5 4 | £ s. d. 1 17 2 |
| Cooperage .. .. | do | .... | 1 | 3 | 5 | 17 | 10 | 113 | 149 |
| | | .... | £ s. d. 0 6 0 | £ s. d. 0 5 2 | £ s. d. 0 5 10 | £ s. d. 0 11 11 | £ s. d. 0 14 7 | £ s. d. 1 16 0 | £ s. d. 1 10 1 |
| Cutlery .. .. | do | .... | .... | 1 | .... | .... | .... | 10 | 11 |
| | | .... | .... | £ s. d. 0 5 0 | .... | .. . | . . | £ s. d. 1 9 8 | £ s. d. 1 7 5 |
| Die-sinking and Engraving .. .. | do | .... | .... | .... | 1 | 1 | .. | 5 | 7 |
| | | .... | .... | .... | £ s. d. 0 5 0 | s. d. 0 | .. | £ s. d. 1 14 0 | £ s. d. 1 6 5 |
| Dye Works .. .. | do | .... | .... | .... | ... | . . | . | 9 | 9 |
| | | .... | .... | .... | .... | .... | .... | £ s. d. 1 19 1 | £ s. d. 1 19 1 |
| Electroplating, Watches, &c. .. | do | .... | 3 | 1 | 2 | 2 | 3 | 62 | 73 |
| | | .... | £ s. d. 0 5 4 | £ s. d. 0 8 0 | £ s. d. 0 7 9 | £ s. d. 0 7 6 | £ s. d. 0 11 8 | £ s. d. 1 19 2 | £ s. d. 1 14 6 |

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MALES.

| Class of Trade. | — | 13 years. | 14 years. | 15 years. | 16 years. | 17 years. | 18 years. | Over 15 years. | Total Males. |
|---|---|---|---|---|---|---|---|---|---|
| No. 11.—MISCELLANEOUS—(*continued*). | | | | | | | | | |
| Engraving .. .. | No. of Employees. | .... | .... | .... | .... | .... | .... | 2 | 2 |
| | Average Weekly Wage | .... | .... | .... | .... | .... | .... | £ s. d. 3 2 6 | £ s. d. 3 2 6 |
| Eucalyptus Oil .. | do | .... | .... | .... | .... | .... | .... | 1 | 1 |
| | | .... | .... | .... | .... | .... | .... | £ s. d. 0 10 0 | £ s. d. 0 10 0 |
| Explosives .. .. | do | .... | .... | .... | .... | .... | .... | 6 | 6 |
| | | .... | .... | .... | .... | .... | .... | £ s. d. 1 11 4 | £ s. d. 1 11 4 |
| Florists (making bouquets) .. .. | do | .... | .... | .... | .... | .... | .... | 4 | 4 |
| | | .... | .... | .... | .... | .... | .... | £ s. d. 2 1 9 | £ s. d. 2 1 9 |
| Glass Bevelling Silvering, Cutting, and Staining .. .. | do | .... | .... | 5 | 7 | 8 | 15 | 124 | 159 |
| | | .... | .... | £ s. d. 0 6 10 | £ s. d. 0 8 6 | £ s. d. 0 8 5 | £ s. d. 0 11 5 | £ s. d. 1 19 10 | £ s. d. 1 13 2 |
| Glass Bottles, &c. .. | do | .... | 4 | 11 | 24 | 26 | 6 | 128 | 199 |
| | | .... | £ s. d. 0 8 6 | £ s. d. 0 8 4 | £ s. d. 0 10 3 | £ s. d. 0 11 8 | £ s. d. 0 13 5 | £ s. d. 2 0 8 | £ s. d. 1 10 0 |
| Hair-carding .. .. | do | .... | .... | .... | .... | .... | .... | 10 | 10 |
| | | .... | .... | .... | .... | .... | .... | £ s. d. 2 0 10 | £ s. d. 2 0 10 |
| Incubators .. .. | do | .... | .... | .... | 1 | 1 | .... | 3 | 5 |
| | | .... | .... | .... | £ s. d. 0 7 0 | £ s. d. 1 0 0 | .... | £ s. d. 2 5 4 | £ s. d. 1 12 7 |
| Ink .. .. .. | do | .... | .... | .... | .... | .... | .... | 5 | 5 |
| | | .... | .... | .... | .... | .... | .... | £ s. d. 2 2 0 | £ s. d. 2 2 0 |
| Jewellery .. .. | do | .... | 6 | 12 | 14 | 11 | 7 | 113 | 163 |
| | | .... | £ s. d. 0 5 9 | £ s. d. 0 6 0 | £ s. d. 0 7 1 | £ s. d. 0 9 10 | £ s. d. 0 12 7 | £ s. d. 2 7 7 | £ s. d. 1 15 5 |
| Lamps .. .. .. | do | .... | .... | .... | 1 | .... | .... | 3 | 4 |
| | | .... | .... | .... | £ s. d. 0 15 0 | .... | .... | £ s. d. 1 5 10 | £ s. d. 1 3 2 |
| Laundries (Chinese) .. | do | .... | .... | .... | .... | .... | .... | 7 | 7 |
| | | .... | .... | .... | .... | .... | .... | £ s. d. 1 6 1 | £ s. d. 1 6 1 |
| Do (European) | do | .... | .... | 1 | 2 | 3 | .... | 65 | 71 |
| | | .... | .... | £ s. d. 0 5 0 | £ s. d. 0 10 3 | £ s. d. 0 10 8 | .... | £ s. d. 1 9 4 | £ s. d. 1 7 8 |
| Leather-belting and Rubber Goods .. | do | .... | .... | .... | 4 | .... | 1 | 51 | 56 |
| | | .... | .... | .... | £ s. d. 0 9 5 | .... | £ s. d. 0 15 0 | £ s. d. 1 13 0 | £ s. d. 1 11 0 |
| Leather Fancy Goods | do | .... | .... | 3 | 2 | 5 | 6 | 35 | 51 |
| | | .... | .... | £ s. d. 0 7 0 | £ s. d. 0 11 9 | £ s. d. 0 14 5 | £ s. d. 0 17 3 | £ s. d. 1 12 8 | £ s. d. 1 6 9 |

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MALES.

| Class of Trade. | — | 13 years. | 14 years. | 15 years. | 16 years. | 17 years. | 18 years. | Over 18 years. | Total Males. |
|---|---|---|---|---|---|---|---|---|---|
| No. 11.—MISCELLANEOUS—(*continued*). | | | | | | | | | |
| Lenses (Glass) .. .. | No. of Employees. | .... | .... | 2 | 2 | 2 | .... | 2 | 8 |
| | Average Weekly Wage | .... | .... | £ s. d. 0 6 0 | £ s. d. 0 6 3 | £ s. d. 1 0 0 | .... | £ s. d. 1 8 9 | £ s. d. 0 15 3 |
| Millet Brooms .. | do | .... | .... | .... | 4 | 1 | 1 | 28 | 34 |
| | | .... | .... | .... | £ s. d. 0 10 4 | £ s. d. 0 10 6 | £ s. d. 0 16 0 | £ s. d. 1 13 11 | £ s. d. 1 9 11 |
| Opticians .. .. | do | .... | .... | .... | .... | .... | .... | 3 | 3 |
| | | .... | .... | .... | .... | .... | .... | £ s. d. 2 1 8 | £ s. d. 2 1 8 |
| Organs, Musical Instruments | do | .... | 4 | 3 | 7 | 5 | 2 | 60 | 81 |
| | | .... | £ s. d. 0 3 9 | £ s. d. 0 6 10 | £ s. d. 0 8 10 | £ s. d. 0 9 7 | £ s. d. 1 12 3 | £ s. d. 2 4 5 | £ s. d. 1 15 6 |
| Packing Cases .. | do | .... | .... | 3 | 9 | 10 | 5 | 119 | 146 |
| | | .... | .... | £ s. d. 0 10 8 | £ s. d. 0 9 8 | £ s. d. 0 13 2 | £ s. d. 0 18 1 | £ s. d. 1 15 9 | £ s. d. 1 11 6 |
| Photography .. .. | do | .... | 6 | 6 | 11 | 8 | 4 | 110 | 145 |
| | | .... | £ s. d. 0 7 6 | £ s. d. 0 7 5 | £ s. d. 0 9 9 | £ s. d. 0 12 1 | £ s. d. 0 12 8 | £ s. d. 2 1 5 | £ s. d. 1 13 9 |
| Pneumatic Tyres .. | do | .... | .... | .... | 1 | 2 | 2 | 2 | 7 |
| | | .... | .... | .... | £ s. d. 0 5 0 | £ s. d. 0 12 6 | £ s. d. 0 18 9 | £ s. d. 2 1 3 | £ s. d. 1 1 5 |
| Portmanteaus .. | do | .... | 2 | .... | 2 | .... | 2 | 20 | 26 |
| | | .... | £ s. d. 0 5 6 | .... | £ s. d. 0 8 6 | .... | £ s. d. 0 10 6 | £ s. d. 1 16 0 | £ s. d. 1 4 2 |
| Rope, Twine, &c. .. | do | .... | 2 | 4 | 21 | 33 | 17 | 52 | 129 |
| | | .... | £ s. d. 0 6 0 | £ s. d. 0 6 0 | £ s. d. 0 12 2 | £ s. d. 0 13 11 | £ s. d. 0 16 3 | £ s. d. 1 11 11 | £ s. d. 1 0 10 |
| Sewing Machines .. | do | .... | .... | 3 | 2 | 2 | 2 | 93 | 102 |
| | | .... | .... | £ s. d. 0 6 6 | £ s. d. 0 7 6 | £ s. d. 0 12 6 | £ s. d. 0 16 3 | £ s. d. 2 2 4 | £ s. d. 1 19 6 |
| Scientific Instruments | do | .... | .... | 1 | 2 | 2 | ... | 14 | 19 |
| | | .... | .... | £ s. d. 0 5 0 | £ s. d. 0 6 3 | £ s. d. 0 9 0 | .... | £ s. d. 1 19 4 | £ s. d. 1 10 10 |
| Signwriting .. .. | do | .... | .... | 4 | 2 | 3 | 9 | 92 | 110 |
| | | .... | .... | £ s. d. 0 6 3 | £ s. d. 0 12 6 | £ s. d. 0 5 0 | £ s. d. 0 13 7 | £ s. d. 2 5 4 | £ s. d. 1 19 7 |
| Tobacco & Cigarettes | do | .... | 3 | 7 | 8 | 2 | 1 | 120 | 141 |
| | | .... | £ s. d. 0 7 8 | £ s. d. 0 8 0 | £ s. d. 0 9 4 | £ s. d. 0 12 0 | £ s. d. 0 10 0 | £ s. d. 1 14 9 | £ s. d. 1 10 11 |
| Toys .. .. .. | do | .... | .... | 4 | 5 | .... | 2 | 2 | 13 |
| | | .... | .... | £ s. d. 0 6 4 | £ s. d. 0 7 6 | .... | £ s. d. 0 10 1 | £ s. d. 1 3 3 | £ s. d. 0 9 10 |
| Umbrellas .. .. | do | .... | .... | 1 | 2 | 1 | 1 | 1 | 6 |
| | | .... | .... | £ s. d. 0 12 6 | £ s. d. 0 13 9 | £ s. d. 0 5 0 | £ s. d. 0 12 6 | £ s. d. 2 0 0 | £ s. d. 0 16 3 |
| Wickerworking .. | do | .... | 2 | 2 | 3 | 1 | .... | 33 | 41 |
| | | .... | £ s. d. 0 5 6 | £ s. d. 0 10 0 | £ s. d. 0 10 3 | £ s. d. 0 15 0 | .... | £ s. d. 1 12 11 | £ s. d. 1 8 4 |

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FEMALES.

| Class of Trade. | — | 13 years. | 14 years. | 15 years. | 16 years. | 17 years. | 18 years. | Over 18 years. | Total Females. |
|---|---|---|---|---|---|---|---|---|---|
| **No. 1.—Treating Raw Material, the Product of Pastoral Pursuits.** | | | | | | | | | |
| Candles, Soap, Tallow-works, &c. .. .. | No. of Employees. | .... | 1 | 4 | 3 | 3 | .... | 13 | 24 |
| | Average Weekly Wage | .... | £ s. d. 0 5 6 | £ s. d. 0 7 2 | £ s. d. 0 7 8 | £ s. d. 0 8 4 | .... | £ s. d. 0 14 1 | £ s. d. 0 11 1 |
| Tanneries .. .. | do | .... | .... | .... | .... | .... | .... | 2 | 2 |
| | | .... | .... | .... | .... | .... | .... | £ s. d. 1 1 0 | £ s. d. 1 1 0 |
| **No. 2.—Connected with Food and Drink, or the Preparation thereof.** | | | | | | | | | |
| Aerated Waters, &c... | do | .... | .... | 1 | 1 | 3 | 2 | 12 | 19 |
| | | .... | .... | £ s. d. 0 5 0 | £ s. d. 0 5 0 | £ s. d. 0 9 8 | £ s. d. 0 8 6 | £ s. d. 0 11 10 | £ s. d. 0 10 5 |
| Biscuits .. .. | do | .... | 1 | 5 | 11 | 9 | 13 | 56 | 95 |
| | | .... | £ s. d. 0 11 0 | £ s. d. 0 9 7 | £ s. d. 0 9 2 | £ s. d. 0 10 5 | £ s. d. 0 9 1 | £ s. d. 0 11 8 | £ s. d. 0 10 9 |
| Bread .. .. .. | do | .... | .... | 1 | .... | .... | 1 | 19 | 21 |
| | | .... | .... | £ s. d. 0 5 0 | .... | .... | £ s. d. 1 0 0 | £ s. d. 0 16 0 | £ s. d. 0 15 8 |
| Brewerites, Bottling Ale, &c. .. .. | do | .... | .... | .... | .... | .... | .... | 1 | 1 |
| | | .... | .... | .... | .... | .... | .... | £ s. d. 0 13 6 | £ s. d. 0 13 6 |
| Butchers, Small Goods, &c. .. .. | do | .... | .... | .... | .... | 1 | 2 | 7 | 10 |
| | | .... | .... | .... | .... | £ s. d. 0 14 0 | £ s. d. 0 17 6 | £ s. d. 0 17 2 | £ s. d. 0 16 11 |
| Confectionery .. | do | 1 | 5 | 14 | 36 | 24 | 19 | 102 | 201 |
| | | £ s. d. 0 5 0 | £ s. d. 0 5 2 | £ s. d. 0 7 1 | £ s. d. 0 6 6 | £ s. d. 0 6 8 | £ s. d. 0 7 2 | £ s. d. 0 9 1 | £ s. d. 0 7 10 |
| Flour Mills .. .. | do | .... | .... | .... | 1 | .... | .... | 6 | 7 |
| | | .... | .... | .... | £ s. d. 0 10 0 | .... | .... | £ s. d. 0 11 4 | £ s. d. 0 11 1 |
| Grocers' Sundries, Maizena, Spices, &c. | do | 1 | 1 | 10 | 14 | 43 | 41 | 105 | 215 |
| | | £ s. d. 0 5 0 | £ s. d. 0 7 0 | £ s. d. 0 6 2 | £ s. d. 0 6 9 | £ s. d. 0 8 0 | £ s. d. 0 9 0 | £ s. d. 0 12 5 | £ s. d. 0 10 0 |
| Jams, Preserves, Pickles, Sauces, &c. | do | .... | .... | 4 | 32 | 25 | 29 | 90 | 180 |
| | | .... | .... | £ s. d. 0 5 9 | £ s. d. 0 7 0 | £ s. d. 0 7 10 | £ s. d. 0 7 5 | £ s. d. 0 9 6 | £ s. d. 0 8 5 |
| eat-preserving .. | do | .... | .... | .... | 3 | 1 | 2 | 9 | 15 |
| | | .... | .... | .... | £ s. d. 0 8 0 | £ s. d. 0 10 0 | £ s. d. 0 9 6 | £ s. d. 0 11 6 | £ s. d. 0 10 5 |
| Pastry .. .. .. | do | .... | .... | 1 | 3 | 8 | .... | 35 | 47 |
| | | .... | .... | £ s. d. 0 10 0 | £ s. d. 0 6 0 | £ s. d. 0 7 0 | .... | £ s. d. 1 0 1 | £ s. d. 0 16 9 |
| Tea Packing .. .. | do | .... | 2 | 3 | 8 | 9 | 4 | 25 | 61 |
| | | .... | £ s. d. 0 6 6 | £ s. d. 0 7 6 | £ s. d. 0 7 8 | £ s. d. 0 8 10 | £ s. d. 0 9 4 | £ s. d. 0 14 6 | £ s. d. 0 11 10 |

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## FEMALES.

| Class of Trade. | — | 13 years. | 14 years. | 15 years. | 16 years. | 17 years. | 18 years. | Over 18 years. | Total Females. |
|---|---|---|---|---|---|---|---|---|---|
| **No. 3.—Clothing and Textile Fabrics.** | | | | | | | | | |
| Boots and Shoes .. | No. of Employers. | 2 | 55 | 107 | 150 | 129 | 76 | 525 | 1,044 |
| | Average Weekly Wage | £ s. d. 0 5 0 | £ s. d. 0 4 9 | £ s. d. 0 5 2 | £ s. d. 0 6 8 | £ s. d. 0 7 8 | £ s. d. 0 9 11 | £ s. d. 0 15 10 | £ s. d. 0 11 4 |
| Clothing .. .. | do | .... | 38 | 138 | 200 | 183 | 164 | 829 | 1,552 |
| | | .... | £ s. d. 0 3 3 | £ s. d. 0 4 5 | £ s. d. 0 5 7 | £ s. d. 0 8 3 | £ s. d. 0 10 6 | £ s. d. 0 15 1 | £ s. d. 0 11 4 |
| Corsetmaking .. | do | .... | 1 | 2 | .... | 1 | 2 | 1 | 7 |
| | | .... | £ s. d. 0 10 0 | £ s. d. 0 7 6 | .... | £ s. d. 0 10 0 | £ s. d. 0 11 0 | £ s. d. 0 2 6 | £ s. d. 0 11 4 |
| Dressmaking .. .. | do | .... | 22 | 129 | 222 | 197 | 127 | 945 | 1,642 |
| | | .... | £ s. d. *0 0 5 | £ s. d. 0 1 9 | £ s. d. 0 4 8 | £ s. d. 0 4 9 | £ s. d. 0 8 3 | £ s. d. 0 16 2 | £ s. d. 0 11 4 |
| Furriers .. .. | do | .... | .... | .... | .... | .... | .... | 7 | 7 |
| | | .... | .... | .... | .... | .... | .... | £ s. d. 0 15 10 | £ s. d 0 15 |
| ats and Caps .. | do | .... | 2 | 8 | 24 | 33 | 15 | 85 | 167 |
| | | .... | £ s. d. 0 4 9 | £ s. d. 0 4 2 | £ s. d. 0 6 2 | £ s. d. 0 7 8 | £ s. d. 0 9 6 | £ s. d. 0 16 6 | £ s. d 0 11 11 |
| Mantlemaking .. | do | .... | 1 | 3 | 2 | 4 | 5 | 46 | 61 |
| | | .... | £ s. d. 0 2 6 | £ s. d. 0 2 10 | £ s. d. 0 5 0 | £ s. d. 0 5 2 | £ s. d. 0 4 0 | £ s. d. 0 18 3 | £ s. d. 0 14 10 |
| Millinery .. .. | do | .... | 6 | 28 | 45 | 51 | 16 | 170 | 316 |
| | | .... | £ s. d. Nil. | £ s. d. 0 1 7 | £ s. d. 0 2 4 | £ s. d. 0 4 5 | £ s. d. 0 4 5 | £ s. d. 0 18 7 | £ s. d. 0 11 6 |
| Shirtmaking .. .. | do | .... | 2 | 1 | 11 | 9 | 9 | 58 | 90 |
| | | .... | £ s. d. 0 4 9 | £ s. d. 0 5 0 | £ s. d. 0 7 2 | £ s. d. 0 7 1 | £ s. d. 0 10 9 | £ s. d. 0 19 3 | £ s. d. 0 15 4 |
| Underclothing .. | do | .... | 6 | 27 | 39 | 25 | 15 | 304 | 416 |
| | | .... | £ s. d. 0 3 4 | £ s. d. 0 4 7 | £ s. d. 0 5 3 | £ s. d. 0 7 5 | £ s. d. 0 9 1 | £ s. d. 0 15 1 | £ s. d. 0 12 8 |
| Waterproof Clothing.. | do | .... | 1 | 5 | 12 | 8 | 8 | 47 | 81 |
| | | .... | £ s. d. 0 3 0 | £ s. d. 0 4 10 | £ s. d. 0 5 7 | £ s. d. 0 7 4 | £ s. d. 0 10 9 | £ s. d. 0 15 3 | £ s. d. 0 11 10 |
| Woollen Mills.. .. | do | .... | .... | 2 | 2 | 1 | .... | 36 | 41 |
| | | .... | .... | £ s. d. 0 7 0 | £ s. d. 0 7 9 | £ s. d. 0 16 0 | .... | £ s. d. 0 17 4 | £ s. d. 0 16 4 |
| **No. 4.—Building Materials.** | | | | | | | | | |
| Bricks .. .. .. | do | .... | .... | .... | 5 | 5 | 5 | 1 | 16 |
| | | .... | .... | .... | £ s. d. 0 7 9 | £ s. d. 0 8 5 | £ s. d. 0 10 10 | £ s. d. 0 8 9 | £ s. d. 0 9 0 |
| **No. 5.—Metal Works, Machinery, &c.** | | | | | | | | | |
| Bellows Making .. | do .. | Included in Brooms and Brushes, cannot be separated. | | | | | | | |
| Tinsmithing .. .. | do | .... | .... | .... | .... | .... | 3 | 5 | 8 |
| | | .... | .... | .... | .... | .... | £ s. d. 0 4 8 | £ s. d. 0 18 0 | £ s. d 0 13 0 |

* Includes apprentices not receiving any wages.

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FEMALES.

| Class of Trade. | — | 13 years. | 14 years. | 15 years. | 16 years. | 17 years. | 18 years. | Over 18 years. | Total Females |
|---|---|---|---|---|---|---|---|---|---|
| **No. 6.—Shipbuilding, Repairing, &c.** | | | | | | | | | |
| Sails, Tents, &c. .. | No. of Employees. | .... | .... | 1 | 2 | 5 | 5 | 36 | 49 |
| | Average Weekly Wage | .... | .... | £ s. d. 0 5 0 | £ s. d. 0 7 0 | £ s. d. 0 8 8 | £ s. d. 0 11 6 | £ s. d. 0 14 5 | £ s. d. 0 13 0 |
| **No. 7.—Furniture, Bedding, &c.** | | | | | | | | | |
| Furniture (European) | do | .... | .... | 1 | .... | 2 | 1 | 11 | 15 |
| | | .... | .... | £ s. d. 0 7 6 | .... | £ s. d. 0 8 9 | £ s. d. 0 7 6 | £ s. d. 0 15 0 | £ s. d. 0 13 2 |
| Picture Frames .. | do | .... | .... | .... | 1 | .... | .... | 5 | 6 |
| | | .... | .... | .... | £ s. d. 0 5 0 | .... | .... | £ s. d. 0 13 7 | £ s. d. 0 12 2 |
| **No. 8.—Books, Paper, Printing, &c.** | | | | | | | | | |
| Envelopes, Paper Boxes, Bags, &c... | do | .... | 9 | 14 | 48 | 38 | 16 | 106 | 231 |
| | | .... | £ s. d. 0 4 5 | £ s. d. 0 7 7 | £ s. d. 0 6 5 | £ s. d. 0 8 9 | £ s. d. 0 10 7 | £ s. d. 0 13 5 | £ s. d. 0 10 4 |
| Paper Patterns .. | do | .... | 1 | .... | 3 | 1 | .... | 5 | 10 |
| | | .... | £ s. d. 0 2 6 | .... | £ s. d. 0 6 2 | £ s. d. 0 4 0 | .... | £ s. d. 0 16 0 | £ s. d. 0 10 6 |
| Printing and Book-binding .. .. | do | .... | 9 | 19 | 56 | 62 | 45 | 289 | 480 |
| | | .... | £ s. d. 0 4 10 | £ s. d. 0 6 0 | £ s. d. 0 6 7 | £ s. d. 0 7 8 | £ s. d. 0 9 0 | £ s. d. 0 14 4 | £ s. d. 0 11 7 |
| **No. 9.—Vehicles, Saddlery, and Harness.** | | | | | | | | | |
| Cycles .. .. .. | do | .... | .... | .... | .... | .... | .... | 1 | 1 |
| | | .... | .... | .... | .... | .... | .... | £ s. d. 1 5 0 | £ s. d. 1 5 0 |
| Harness, Saddles, &c. | do | .... | 2 | 2 | .... | 1 | 1 | 10 | 16 |
| | | .... | £ s. d. 0 5 0 | £ s. d. 0 5 0 | .... | £ s. d. 0 5 0 | £ s. d. 0 9 0 | £ s. d. 1 0 11 | £ s. d. 0 15 2 |
| Perambulators .. | do | .... | .... | .... | .... | .... | 1 | 1 | 2 |
| | | .... | .... | .... | .... | .... | £ s. d. 0 10 0 | £ s. d. 1 5 0 | £ s. d. 1 17 6 |
| **No. 11.—Miscellaneous.** | | | | | | | | | |
| Brushes, Brooms (except Millet Brooms), Bellows, &c. .. | do | .... | .... | .... | .... | .... | .... | 5 | 5 |
| | | .... | .... | .... | .... | .... | .... | £ s. d. 0 13 6 | £ s. d. 0 13 6 |
| Carpets, Curtains, Cushions .. .. | do | .... | .... | .... | 4 | 1 | .... | 17 | 22 |
| | | .... | .... | .... | £ s. d. 0 6 8 | £ s. d. 0 5 0 | .... | £ s. d. 0 17 7 | £ s. d. 0 14 11 |
| Chemicals .. .. | do | .... | 1 | 3 | 11 | 16 | 4 | 61 | 96 |
| | | .... | £ s. d. 0 6 0 | £ s. d. 0 6 10 | £ s. d. 0 5 11 | £ s. d. 0 7 2 | £ s. d. 0 8 6 | £ s. d. 0 11 5 | £ s. d. 0 9 0 |
| Cigars .. .. .. | do | .... | 5 | 6 | 4 | 5 | 4 | 39 | 63 |
| | | .... | £ s. d. 0 10 7 | £ s. d. 0 9 2 | £ s. d. 0 10 10 | £ s. d. 0 12 0 | £ s. d. 0 9 0 | £ s. d. 0 16 5 | £ s. d. 0 14 1 |
| Dye Works .. .. | do | .... | .... | .... | 1 | .... | 1 | 13 | 15 |
| | | .... | .... | .... | £ s. d. 0 7 6 | .... | £ s. d. 0 7 6 | £ s. d. 0 1 6 | £ s. d. 0 18 9 |
| Electroplating, Watches, &c. .. | do | .... | .... | .... | .... | 1 | 1 | 2 | 4 |
| | | .... | .... | .... | .... | £ s. d. 0 9 0 | £ s. d. 0 12 6 | £ s. d. 1 7 6 | £ s. d. 0 19 1 |

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FEMALES.

| Class of Trade. | — | 13 years. | 14 years. | 15 years. | 16 years. | 17 years. | 18 years. | Over 18 years. | Total Females. |
|---|---|---|---|---|---|---|---|---|---|
| **No. 11.—MISCELLANEOUS—(*continued*).** | | | | | | | | | |
| Eucalyptus Oil .. | No. of Employees. | .... | .... | .... | 1 | .... | .... | 1 | 2 |
| | Average Weekly Wage | .... | .... | .... | £ s. d. 0 6 0 | .... | .... | £ s. d. 0 9 0 | £ s. d. 0 7 6 |
| Florists (making bouquets) .. .. | do | .... | .... | 2 | .... | 3 | 5 | 11 | 21 |
| | | .... | .... | £ s. d. 0 5 0 | .... | £ s. d. 0 8 8 | £ s. d. 0 7 0 | £ s. d. 0 17 5 | £ s. d. 0 12 6 |
| Glass bevelling, silvering, cutting, and staining .. .. | do | .... | .... | .... | .... | .... | .... | 1 | 1 |
| | | .... | .... | .... | .... | .... | .... | £ s. d. 0 12 0 | £ s. d. 0 12 0 |
| Hair-carding .. .. | do | .... | .... | .... | .... | .... | .... | 5 | 5 |
| | | .... | .... | .... | .... | .... | .... | £ s. d. 0 18 6 | £ s. d. 0 18 6 |
| Jewellery .. .. | do | .... | .... | .... | .... | .... | 1 | 3 | 4 |
| | | .... | .... | .... | .... | .... | £ s. d. 0 7 0 | £ s. d. 0 6 6 | £ s. d. 0 6 8 |
| Lamps .. .. .. | do | .... | .... | .... | .... | .... | 3 | 26 | 29 |
| | | .... | .... | .... | .... | .... | £ s. d. 0 13 4 | £ s. d. 0 18 2 | £ s. d. 0 17 8 |
| Laundries (European) | do | .... | 1 | £ s. d. 0 8 | 15 | 46 | 39 | 705 | 809 |
| | | .... | £ s. d. 0 5 0 | | £ s. d. 0 8 10 | £ s. d. 0 11 4 | £ s. d. 0 10 4 | £ s. d. 0 17 4 | £ s. d. 0 15 3 |
| Lenses (Glass).. | do | .... | .... | .... | .... | .... | .... | 1 | 1 |
| | | .... | .... | .... | .... | .... | .... | £ s. d. 1 7 6 | £ s. d. 1 7 6 |
| Organs, Musical Instruments .. .. | do | .... | .... | .... | 1 | 2 | 1 | 5 | 9 |
| | | .... | .... | .... | £ s. d. 0 5 0 | £ s. d. 0 5 0 | £ s. d. 0 9 0 | £ s. d. 0 10 5 | £ s. d. 0 8 5 |
| Photography .. .. | do | .... | .... | 7 | 9 | 12 | 9 | 118 | 155 |
| | | .... | .... | £ s. d. 0 5 4 | £ s. d. 0 4 9 | £ s. d. 0 8 10 | £ s. d. 0 8 3 | £ s. d. 0 18 8 | £ s. d. 0 15 10 |
| Pneumatic Tyres .. | do | .... | .... | .... | .... | .... | .... | 2 | 2 |
| | | .... | .... | .... | .... | .... | .... | £ s. d. 0 16 3 | £ s. d. 0 16 3 |
| Portmanteaus .. | do | .... | .... | .... | .... | 1 | .... | 4 | 5 |
| | | .... | .... | .... | .... | £ s. d. 0 5 0 | .... | £ s. d. 0 14 0 | £ s. d. 0 12 2 |
| Rope, Twine, &c. .. | do | .... | .... | 1 | .... | .... | 1 | .... | 2 |
| | | .... | .... | £ s. d. 0 5 0 | .... | .... | £ s. d. 0 7 0 | .... | £ s. d. 0 6 0 |
| Sewing Machines .. | do | .... | .... | .... | 1 | .... | .... | 1 | 2 |
| | | .... | .... | .... | £ s. d. 0 7 0 | .... | .... | £ s. d. 0 8 0 | £ s. d. 0 7 6 |
| Scientific Instruments | do | .... | .... | .... | 2 | .... | .... | 4 | 6 |
| | | .... | .... | .... | £ s. d. 0 5 0 | .... | .... | £ s. d. 0 14 8 | £ s. d. 0 11 5 |
| Tobacco & Cigarettes | do | 3 | 9 | 11 | 20 | 36 | 26 | 103 | 208 |
| | | £ s. d. 0 5 4 | £ s. d. 0 6 5 | £ s. d. 0 6 7 | £ s. d. 0 8 6 | £ s. d. 0 10 4 | £ s. d. 0 12 7 | £ s. d. 0 18 2 | £ s. d. 0 13 11 |
| Umbrellas .. .. | do | .... | .... | .... | 1 | .... | 2 | 10 | 13 |
| | | .... | .... | .... | £ s. d. 0 10 0 | .... | £ s. d. 0 13 3 | £ s. d. 0 18 3 | £ s. d. 0 16 10 |

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### Trade Unions.

The subject of Trade Unionism has been dealt with by legislation in only one instance in this state—the Trade Union Act of 1881. This measure enacts that the purposes of any trade union shall not be deemed to be unlawful, so as to render its members liable to criminal prosecution for conspiracy or otherwise, merely because they are in restraint of trade; nor for such a reason shall any agreement or trust be rendered void or voidable. It is declared that nothing in the Act shall enable any Court to entertain any legal proceeding instituted with the object of directly enforcing or recovering damages for the breach of agreements between the members of a trade union, concerning the conditions upon which they shall transact business, employ, or be employed, or for the payment of subscriptions or penalties to the union, or for application of the funds to certain specified purposes; but at the same time the Act is not to be deemed to make such agreements unlawful. Neither the Friendly Societies Act nor the Companies Act is to apply to trade unions, nor can the unions be registered under either of those Acts. Provision is made, however, for the registration of trade unions under the present Act, provided always that if one of the purposes of such trade union be unlawful the registration shall be void. The Registrar of Friendly Societies is appointed Registrar of Trade Unions, and provisions are made for the appointment of trustees, treasurers, etc., for the establishment of rules, the preparation of annual returns, dissolution or amalgamation, change of name, and other matters. The term "Trade Union" is defined to mean "any combination, whether temporary or permanent, for regulating the relations between workmen and employers, or between workmen and workmen, or between employer and employers, for imposing restrictive conditions on the conduct of any trade or business, whether such combination would or would not, if this Act had not been passed, have been deemed to have been an unlawful combination by reason of some one or more of its purposes being in restraint of trade." Few of the trade unions have complied with the provisions of the Act relative to returns; consequently particulars in regard to their membership cannot be given with any accuracy.

Only one union for the purpose of regulating the mutual relations of workmen and employers has so far been registered. The unions have in all other cases been established for the promotion of the interests of one class or the other. Under the provisions of the Act 179 unions had been registered up to the end of 1900, and of these, 5 were societies promoted by employers, and 122 by workmen. Many of these unions are not now in existence; but it is impossible to say how many remain at the present time, as the Registrar has been unable to reach a large number of the societies. Of the 179 unions registered, only the following forty-seven supplied the statutory return of their operations, the period covered being in the majority of instances twelve months, while a few returns cover only periods of six months or three months.

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| Name of Union. | Date of Registration. | Date of Balance Sheet. | Receipts. | Expenditure. | Amount of Funds. |
|---|---|---|---|---|---|
| | | | £ | £ | £ |
| Amalgamated Coachmakers', Railway Car, Waggon, and Wheelwrights' Society | April, 1890 | Oct., 1899 | 11 | 10 | 315 |
| New South Wales Typographical Association | June, 1882 | Dec., 1900 | 415 | 430 | 1,447 |
| Colliery Employés' Federation—Northern District | June, 1882 | Dec., 1900 | 3,328 | 1,415 | 5,168 |
| Masters and Engineers' Association of New South Wales | Aug., 1882 | Dec., 1900 | 207 | 193 | 1,340 |
| New South Wales Operative Bakers' Association | Aug., 1882 | Mar., 1900 | 210 | 187 | 220 |
| Amalgamated Journeymen Tailors' Association | Oct., 1882 | Dec., 1900 | 60 | 21 | 151 |
| Sydney Coal Lumpers' Union | Nov., 1882 | Mar., 1901 | 240 | 153 | 1,015 |
| Amalgamated Society of Carpenters and Joiners | Jan., 1883 | Sept., 1899 | 1,057 | 955 | 397 |
| United Labourers' Protective Society of New South Wales | Feb., 1883 | Feb., 1901 | 39 | 26 | 587 |
| Federated Ironmoulders' Union of Australasia (New South Wales District) | Feb., 1883 | Dec., 1899 | 388 | 208 | 980 |
| Operative Bricklayers' Trade Society | July, 1883 | Nov., 1900 | 100 | 44 | 885 |
| Federated Seamen's Union of Australia | Nov., 1884 | Dec., 1900 | 1,161 | 318 | 4,820 |
| Sydney Progressive Society of Carpenters and Joiners | Feb., 1885 | Dec., 1900 | 37 | 53 | 274 |
| Gas Stokers' Protective Association of New South Wales | July, 1885 | Dec., 1900 | 4 | 6 | 2 |
| Illawarra District Council of Australian Labour Federation | Dec., 1885 | Mar., 1900 | 1,684 | 1,890 | 118 |
| Operative Sailmakers' Trade and Burial Society of Sydney | Jan., 1886 | Dec., 1900 | 19 | 10 | 233 |
| New South Wales Amalgamated Railway and Tramway Service Association | Aug., 1886 | Mar., 1900 | 252 | 217 | 670 |
| Australasian Association of Operative Plasterers | Jan., 1887 | Nov., 1900 | 12 | 17 | 7 |
| Sydney Lithographic Society | July, 1887 | Sept., 1896 | 50 | 44 | 22 |
| Newcastle Typographical Association | Oct., 1888 | June, 1900 | 22 | 17 | 64 |
| Barrier Typographical Society | Nov., 1888 | June, 1900 | 24 | 25 | 84 |
| United Society of Boilermakers' and Iron Shipbuilders of New South Wales | Mar., 1889 | Dec., 1900 | 191 | 98 | 4,059 |
| New South Wales Protective Association of Colliery Engine Drivers | Jan., 1890 | Dec., 1900 | 23 | 17 | 18 |
| Australasian Society of Engineers | April, 1890 | Dec., 1900 | 85 | 30 | 586 |
| Australian Fishermen's Benefit and Protective Society of New South Wales | May, 1890 | Jan., 1901 | 22 | 26 | 119 |
| Barrier Ranges Engine Drivers' and Firemen's Association | Aug., 1890 | Dec., 1900 | 72 | 168 | 86 |
| Journeymen Coopers' Society of New South Wales | Feb., 1891 | Dec., 1900 | 31 | 12 | 257 |
| Master Builders' Association of New South Wales | May, 1892 | Dec., 1900 | 344 | 381 | 462 |
| Barrier Branch of the Amalgamated Miners' Association of Australasia, Broken Hill | Aug., 1893 | Dec., 1900 | 891 | 606 | 1,520 |
| Protection of Trade Marks and Exchange Association | Sept., 1888 | Dec., 1900 | 25 | 35 | 29 |
| Sydney Wharf Labourers' Union | Jan., 1883 | .... | 264 | 18 | 246 |
| Operative Stonemasons' Society of New South Wales | Mar., 1884 | Dec., 1900 | 147 | 100 | 611 |
| Sydney Trade Society of Painters | Feb., 1885 | Dec., 1900 | 61 | 30 | 463 |
| Shipwrights' Provident Union of Port Jackson | Sept., 1896 | Mar., 1901 | 183 | 149 | 1,942 |
| United Furniture Trade Society | Oct., 1883 | Dec., 1900 | 92 | 73 | 356 |
| Operative Masons, Bricklayers, and Plasterers, Broken Hill | May, 1890 | Feb., 1901 | 19 | 17 | 58 |
| United Labourers' Protective Society, Newcastle Branch No. 1 | Aug., 1889 | Feb., 1901 | 35 | 11 | 32 |
| Thackaringa Branch of Amalgamated Miners' Association | Oct., 1893 | Dec., 1900 | 8 | 8 | 21 |
| Amalgamated Miners' Association, Wrightville Branch | Jan., 1901 | Jan., 1901 | 221 | 195 | 139 |
| Boot Trade Union | Sept., 1900 | Dec., 1900 | 150 | 79 | 113 |
| Amalgamated Glass Workers' Union | Dec., 1899 | Mar., 1901 | 172 | 101 | 194 |
| Sydney Labour Council | Sept., 1894 | Dec., 1900 | 31 | 21 | 18 |
| Eight Hours' Demonstration, 1900, Broken Hill | Sept., 1900 | Jan., 1901 | 649 | 605 | 44 |
| Eight Hours' Demonstration, 1900, Sydney | Aug., 1886 | Nov., 1900 | 2,838 | 2,125 | 713 |
| Eight Hours' Demonstration, 1900, Newcastle | Sept., 1886 | Oct., 1900 | 312 | 227 | 85 |
| Australian Workers' Union | July, 1899 | Feb., 1900 | 3,410 | 3,529 | 1,945 |
| Painters' and Dockers' Union | May, 1900 | Dec., 1900 | 48 | 15 | 88 |

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The funds at the dates of the balance-sheets were distributed as follow:—Savings Bank and fixed deposits, £24,878 2s. 9d.; current bank accounts and cash in hand, £4,369 3s. 9d.; and other securities, £4,508 4s. 10d.

### Co-operative Societies.

Part V of the Friendly Societies Act of 1873 dealt with the registration of Co-operative Trading and Industrial Societies. During the last session of 1901 an Act known as the "Building and Co-operative Societies Act, 1901," consolidated the law relating to these societies. Part II of that Act deals with Co-operative, Trading, and Industrial Societies. It provides that "any number of persons, not being less than seven, may establish a society under this Act for the purpose of carrying on any labour, trade, or handicraft, whether wholesale or retail, except the business of banking, which the members of such society voluntarily unite to carry on or exercise, and of applying the profits to any lawful purposes; and the buying and selling of land, and the working of mines and quarries, shall be deemed to be a trade within the meaning of this section." The Act further requires the word "Limited" to be the last word in the name of every society registered, and limits the interest to be held or claimed by any member in any society to the sum of £200.

The provisions of the Act relating to Co-operative Societies have been made use of by the public to a very limited extent. Seventy-nine societies have been registered since the Act came into force, but of these there were not more than twenty-eight in existence at the beginning of 1900. The balance-sheets, published at various dates between January, 1897, and March, 1901, and extending over periods of three, six, and twelve months, show that twenty of these societies had a share-capital of £23,389, and reserve funds amounting to £15,021, or a total liability to shareholders of £38,410, while their other liabilities amounted to £26,338. Their assets consisted of stock and fittings, £48,969; and other assets, £25,547; or a total of £74,516. Leaving liabilities to shareholders out of consideration, there was, therefore, an excess of assets to the amount of £48,178. Irrespective of the assets and liabilities shown, seventeen of the societies had balances at the credit of profit and loss account amounting to £12,003, while six societies had debit balances totalling £2,235.

### Trades Conciliation and Arbitration.

After the termination of the maritime strike of 1890 a Royal Commission was appointed for the purpose of inquiring into the causes and means for prevention of industrial disputes. The introduction into Parliament early in 1892 of a Bill to provide for the establishment of a Council of Conciliation and Arbitration was one of the results of

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this Commission. The bill became law, and was to continue in force for four years from March 31, 1892. Under it two Councils were established—a Council of Arbitration, consisting of three, and a Council of Conciliation, consisting of eighteen members. One of the former and nine of the latter were elected by a majority of the organisations representing the interests of the employers, and a similar number by a majority of the organisations representing the employees. The President of the Council of Arbitration was appointed by the Governor and Executive Council on the recommendation of the other two members of the Council. The regulations under the Act were carried out by an officer called the Clerk of Awards. From the time the two Councils were appointed to the end of 1894 only one case of conciliation and one of arbitration were dealt with by them. Negotiations were opened in a large number of other cases, but without success; the principle of the Act being a purely voluntary one, the Councils had no power to bring either party to a dispute before the industrial tribunal. Parliament having refused to vote supplies for the continuance of the Councils during 1895, they came to an end on December 31, 1894. The Act itself, however, remained in force until March 31, 1896.

In the early part of 1895 the Minister for Public Instruction was created Minister for Labour and Industry, and took over the Labour Bureau. As has already been mentioned on a previous page, a Factories and Shops Act was passed in 1896, and is administered by the Minister for Labour and Industry, assisted by a staff of inspectors.

The Conciliation and Arbitration Act of 1899 was assented to on the 22nd April of that year, and came into force on the 1st May. Under this Act the Minister has power to inquire into the cause of any dispute between an employer and his workmen, or between different bodies of workmen, and endeavour to effect an amicable settlement of the differences, failing which he may direct a public inquiry by a Judge of the Supreme or District Court, or by the President of the Land Court, who has power to enter upon the premises and inspect everything calculated to throw light upon the cause of the dispute except books or statements of accounts. On the application of both parties to the dispute an arbitrator may be appointed, and on the application of one of the parties, a conciliator. No power is given for the enforcement of any decision arrived at.

### The Industrial Arbitration Act.

The Industrial Arbitration Act, which received the royal assent on the 10th December, 1901, provides for the registration and incorporation of industrial unions, and the making and enforcing of industrial agreements. Provision is also made for the constitution of a Court of Arbitration, and the powers of this Court are defined with regard to any matters that may come before it, and with reference to the enforcement of its awards and orders.

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## Production.

In other chapters of this work details have been given of the various producing industries, so that it is unnecessary to reproduce them here. It will be interesting, however, to group these industries together in one table in order that some idea may be given of their respective importance. From the total obtained by adding together the production of the various industries there must be deducted something to allow for products twice included, first as the output of one class of industry, and secondly as the raw material of a more advanced industry. Under agriculture is included the value of green food, which may be termed a raw material in dairying; grain for swine and poultry feeding also appears twice; coal, coke, and timber used in mining appear under mining and forestry, and afterwards in the value of metals obtained by smelting; and there are other small items of a like character. It must be understood that so far as the manufacturing industry is concerned, the production is net, raw material in all its forms, including coal, being excluded from the totals given. The value of material twice included is about £320,000 which forms a deduction from the total of the following table :—

| Industry. | Hands employed. | Value of Production. |
|---|---|---|
| | No. | £ |
| Manufacturing and allied processes ..... ... | 78,000 | 10,696,800 |
| Agriculture ..... ..... | 67,136 | 5,955,700 |
| Dairying and poultry farming .. ..... ..... | 27,171 | 3,617,000 |
| Pastoral industry ..... | 26,619 | 13,707,000 |
| Mineral production..... | 43,745 | 6,469,000 |
| Forestry and fisheries ..... | 7,500 | 796,000 |
| Total ..... ..... | 250,171 | 41,241,500 |
| Deduction for raw material twice included ..... ..... | | 320,000 |
| Net production .....£ | | 40,921,500 |

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The figure £40,921,500 exceeds the value of production in 1891 by £4,181,740. The following table shows the value of production in various years from 1871 onwards; additional columns have been added so as to show the value of production if prices had remained unaltered, and also the value if 1900 prices only had been obtained:—

| Year. | Actual Value of Production. | Value if 1871 prices had been obtained. | Value if 1900 prices had been obtained. |
|---|---|---|---|
| | £ | £ | £ |
| 1871 | 15,379,000 | 15,379,000 | 9,758,250 |
| 1888 | 25,180,000 | 35,044,890 | 22,243,800 |
| 1891 | 36,739,760 | 57,338,980 | 36,376,000 |
| 1900 | 40,921,500 | 64,492,290 | 40,921,500 |

It will be seen from the figures given above, that since 1871 the volume of production has increased by over 25 millions, while, if the values obtained that year had been similar to those for 1900, the increase would have been over 31 millions sterling. During the ten years, 1891-1900, the increase amounted to over £4,000,000, equal to about 11·4 per cent.

The foregoing table is not given with a view of showing that the difference between what was obtained for the production of the state in 1900 and the amount which would have been realised had 1871 prices prevailed represents a loss; on the contrary, as has been elsewhere pointed out, although the state has suffered by the fall in prices, her loss is chiefly occasioned by the fact that she is a debtor country, and that the fall in import values has not been equivalent to the fall in export values. What the table really does show is that the volume of production has been more than sustained. Compared with population, the value of production shows an average of £30 4s. 3d. per head, of which £22 represents the yield of industries directly connected with the soil, a result which very few countries can claim to equal.

In previous issues of this work appear statements regarding the industrial progress of the state from the earliest period to which the records extend. As this information is readily accessible, and no new facts have been discovered bearing upon the subject treated, the chapter on Industrial History has not been included in the present issue. It would, however, be well to record the variation of wages from the year 1823, about which date the free labourer became a person of some importance. In the following table will be found the average daily

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rates of wages paid in various callings over the period ranging from 1823 to 1838 :—

| Trade or Calling. | 1823. | 1833. | 1835. | 1836. | 1838. |
|---|---|---|---|---|---|
| *Per day, without board and lodging.* | | | | | |
| | s. d. | s. d. | s. d. | s. d. | s. d. |
| Blacksmith | 6 0 | 7 0 | 7 0 | 6 8 | 7 0 |
| Bricklayer | 6 0 | 5 0 | 6 6 | 7 3 | 6 6 |
| Brickmaker, per 1,000 | 6 0 | 9 0 | 9 0 | 5 3 | 9 0 |
| Cabinet-maker | 6 0 | 6 0 | 6 0 | 6 4 | 6 0 |
| Carpenter | 6 0 | 6 0 | 6 9 | 6 4 | 6 6 |
| Caulker | 7 6 | 7 6 | 8 6 | 6 9 | ..... |
| Cooper | 6 0 | 6 0 | 7 6 | 6 6 | 7 6 |
| Farrier | 6 6 | 6 6 | 6 6 | 6 6 | 6 6 |
| Ironfounder | 6 3 | 6 3 | 6 3 | 6 3 | 6 3 |
| Labourer | 3 0 | 3 0 | 4 0 | 4 6 | 4 6 |
| Millwright | 6 6 | 6 6 | 7 0 | 7 3 | 7 3 |
| Painter | ..... | 5 0 | ..... | 5 4 | ..... |
| Plasterer | 5 6 | 5 6 | 7 0 | 6 6 | 6 3 |
| Quarryman | ..... | 5 6 | 5 0 | 5 6 | 4 6 |
| Shoemaker | 6 0 | 6 0 | 6 0 | 5 10 | 6 0 |
| Stonemason | 6 0 | 6 0 | 6 8 | 7 6 | 6 8 |
| Tailor | ..... | 5 6 | 6 0 | ..... | 6 6 |
| Wheelwright | 5 6 | 5 6 | 6 0 | 6 0 | 5 6 |
| *Per annum, with board and lodging.* | | | | | |
| | £ s. | £ s. | £ s. | £ s. | £ s. |
| Agricultural labourer | 22 10 | 22 10 | 22 10 | 22 10 | 25 0 |
| Dairywoman | 10 0 | 12 0 | 12 10 | 12 10 | 12 10 |

The quotation of daily rates, however, is apt to be misleading, as few mechanics secured, even if they sought it, employment during the whole year. It is probable that common labourers did not earn more than 4s. to 5s. per week with rations and lodgings, and mechanics of the highest qualifications did not average more than £2 per week. In 1830, when the population had increased to 46,300, the services of artisans of various classes appear to have been greatly needed, and for some years afterwards every description of labour was in brisk demand, although the remuneration of skilled mechanics remained unaltered.

Various causes tended to produce much fluctuation in wages during the period from 1839 to 1843. The practice of assigning prisoners to selectors ceased about the end of the year 1838, and this event made the introduction of free labourers almost imperative, and led to a considerable influx of immigrants. The year 1839 was marked by a great increase in wages, ordinary mechanics receiving from 8s. to 12s. per day, and farm labourers up to £30 a year with house and rations; but as far as artisans were concerned, their increased remuneration was coincident with the rise in prices of provisions. An official statement

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made at the time shows the number of the immigrant workers who arrived in New South Wales during 1840, with the amounts at which they were engaged, and this may be taken as showing the actual wages current during that year :—

*Males, per annum, with rations.*

| | £ | | £ |
|---|---|---|---|
| 1,032 Agricultural labourers | 25 | 54 Grooms and coachmen | 30 |
| 16 Bakers | 50 | 6 Millers | 40 |
| 10 Butchers | 40 | 35 Ploughmen | 26 |
| 2 Cooks | 35 | 1 Seaman | 48 |
| 61 Domestic servants | 30 | 108 Shepherds | 27 |
| 18 Farm overseers | 40 | 2 Shopkeepers | 40 |
| 62 Gardeners | 40 | 8 Stockmen | 27 |

*Males, per day, without rations.*

| | s. | d. | | s. | d. |
|---|---|---|---|---|---|
| 59 Blacksmiths | 7 | 0 | 1 Nailer | 3 | 6 |
| 67 Boot and shoe makers | 6 | 8 | 24 Painters and glaziers | 6 | 0 |
| 1 Brazier | 6 | 8 | 4 Plasterers | 6 | 0 |
| 9 Bricklayers | 7 | 0 | 1 Plumber | 6 | 0 |
| 4 Brickmakers | 7 | 0 | 11 Printers | 8 | 0 |
| 19 Cabinet-makers | 7 | 6 | 6 Quarrymen | 5 | 0 |
| 83 Carpenters and joiners | 8 | 0 | 13 Saddle and harness makers | 6 | 0 |
| 9 Coopers | 6 | 8 | 13 Sawyers | 10 | 0 |
| 7 Curriers | 6 | 0 | 3 Shipwrights | 10 | 0 |
| 7 Engineers | 10 | 0 | 41 Tailors | 7 | 0 |
| 1 French-polisher | 6 | 8 | 9 Tinsmiths | 6 | 0 |
| 30 Masons | 7 | 0 | 9 Turners | 7 | 0 |
| 22 Mill and wheelwrights | 6 | 8 | 2 Upholsterers | 7 | 0 |
| 2 Miners | 5 | 0 | 5 Watchmakers | 8 | 6 |

*Females, per annum, with rations.*

| | £ | | £ |
|---|---|---|---|
| 19 Bonnet-makers | 14 | 17 Kitchen-maids | 14 |
| 26 Cooks | 20 | 12 Ladies' maids | 20 |
| 97 Dressmakers | 18 | 2 Laundresses | 18 |
| 313 Farm servants | 14 | 14 Milliners | 20 |
| 7 General servants | 16 | 35 Nursery-governesses | 20 |
| 517 Housemaids | 15 | 138 Nurse-maids | 10 |

The extremely unsettled social conditions prevailing during 1841 and 1842 had a corresponding effect on rates of wages. Numerous failures caused credit to sustain a severe and general shock, employment of all descriptions was precarious, and wages fell correspondingly. Carpenters and joiners, who were paid 8s. per day in 1840, could obtain not more than 5s. per day in 1843, and only 4s. in 1844. The wages obtained in 1844 and 1845 were the lowest paid in any year from the foundation of the state, and were probably lower on the whole than those obtained in England during the same period.



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In the following table, which gives the average rates of wages from 1843 to 1852, may be traced the emergence of the state from the great depression to the hopeful new conditions which followed the gold discoveries :—

| Trade or Calling. | 1843. | 1844. | 1845. | 1846. | 1847. | 1848. | 1849. | 1850. | 1851. | 1852. |
|---|---|---|---|---|---|---|---|---|---|---|
| *Males, per day, without board and lodging.* | | | | | | | | | | |
| | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. |
| Carpenters | 5 0 | 4 0 | 4 0 | 5 2 | 5 6 | 5 3 | 4 9 | 4 6 | 6 5 | 9 0 |
| Smiths | 5 0 | 4 0 | 4 3 | 5 2 | 5 6 | 5 3 | 4 9 | 4 6 | 6 8 | 9 0 |
| Masons | 5 0 | 4 0 | 4 0 | 5 2 | 5 6 | 5 3 | 4 9 | 4 6 | 7 8 | 9 0 |
| Bricklayers | 5 0 | 4 0 | 4 0 | 5 2 | 5 6 | 5 3 | 4 9 | 4 6 | 6 0 | 9 0 |
| Wheelwrights | 4 0 | 3 6 | 3 3 | 4 8 | 5 0 | 5 3 | 4 9 | 4 6 | 6 4 | 9 0 |
| *Males, per annum, with board and lodging.* | | | | | | | | | | |
| | £ | £ | £ | £ | £ | £ | £ | £ | £ | £ |
| Farm labourers | 15 | 15 | 18 | 20 | 23 | 21 | 18 | 18 | 20 | 23 |
| Shepherds | 14 | 14 | 17 | 20 | 23 | 21 | 18 | 18 | 20 | 23 |
| *Females, per annum, with board and lodging.* | | | | | | | | | | |
| | £ | £ | £ | £ | £ | £ | £ | £ | £ | £ |
| Cooks | 15 | 15 | 18 | 20 | 22 | 21 | 17 | 17 | 20 | 22 |
| Housemaids | 15 | 15 | 15 | 17 | 17 | 17 | 14 | 13 | 16 | 16 |
| Laundresses | 12 | 12 | 15 | 17 | 19 | 18 | 15 | 15 | 16 | 20 |
| Nursemaids | 10 | 10 | 12 | 15 | 16 | 14 | 9 | 9 | 9 | 16 |
| General servants | 12 | 12 | 16 | 16 | 18 | 16 | 12 | 14 | 16 | 17 |
| Farm-house servants | 10 | 10 | 12 | 16 | 17 | 16 | 12 | 11 | 13 | 14 |
| Dairy-women | 10 | 10 | 12 | 16 | 17 | 16 | 12 | 11 | 13 | 14 |

As the table shows, the acuteness of the depression was spent in 1845. The years 1846, 1847, and 1848 were marked by an upward tendency, but rates again fell in 1849 and 1850. The immediate effect of the discovery of gold in 1851 is shown by the sudden leaps in all classes of wages for that and the succeeding year.

In the next table are given the ruling rates of wages in the most prominent callings for the period extending from 1851 to 1858. During this golden era the prices of all sorts of provisions, articles of clothing, house rents, &c., greatly increased, and the improvement in the condition of the workers was not to the full extent shown by the rise in wages. The year 1854 witnessed the culminating point as regards earnings in the most prominent callings. Thus bricklayers, who at the beginning of the period were receiving 6s. per day, were being paid at the rate of from 25s. to 30s. per day, the wages of blacksmiths increased from 6s. 8d. per day to from 20s. to 25s., and carpenters whose earnings were at the rate of 6s. 5d. in 1851, received from 15s. to 20s. per day in 1854. The rates of remuneration for ordinary labour were on

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the increase in each of the states, and many branches of industry were coming to a standstill for lack of men to carry them on. In the sister state of Victoria, carpenters, wheelwrights, and bricklayers received, in 1853, 15s. per day, with board and lodging; carpenters, in town, without board and lodging, 28s. per day, and in the country 22s. 6d.; masons, in town, without board and lodging, 26s. 9d. per day, and in the country 25s.; bricklayers, in town and in country, without board and lodging, 25s. per day; and smiths and wheelwrights, in town and in country, without board and lodging, 22s. 6d. per day. In 1854 the rates of wages ruling were quoted as follow:—Smiths, in country, 20s. per day; masons, in country, 22s. 6d.; wheelwrights, in country, 24s., and in town, 30s.; carpenters, in country, 23s., and in town, 25s.; and bricklayers, in country, 25s., and in town 30s., without board and lodging in each case. But in Victoria wages were much higher than in the parent state, in consequence of the continuance of the mining boom and the absorption of nearly all enterprise and all available labour in the one direction of gold-seeking.

| Trade or Calling. | 1851. | 1852. | 1853. | 1854. | 1855. | 1856. | 1857. | 1858. |
|---|---|---|---|---|---|---|---|---|
| *Males, per day, without board and lodging.* | | | | | | | | |
| | s. d. | s. d. | s. d. | s. s. | s. s. | s. s. | s. s. | s. s. |
| Bricklayers | 6 0 | 9 0 | 15 6 | 25 to 30 | 18 to 25 | 16 to 18 | 12 to 16 | 10/6 to 11/6 |
| Blacksmiths | 6 8 | 9 0 | 12 9 | 20 to 25 | 14 to 16 | 8 to 13 | 10 to 14 | 10/6 |
| Carpenters | 6 5 | 9 0 | 12 6 | 15 to 20 | 12 to 15 | 12 to 15 | 10 to 12 | 10 to 11 |
| Coopers | .... | .... | .... | 15 to 20 | 10 to 12 | 12 to 14 | 12 to 14 | ..... |
| Cabinetmakers | .... | .... | .... | 15 to 20 | 12 to 15 | 12 to 15 | 12 to 14 | ..... |
| Farriers | .... | .... | .... | 12 to 15 | 10 to 12 | 9 to 12 | 10 to 12 | ..... |
| Plumbers and glaziers | .... | .... | .... | 16 to 20 | 12 to 15 | 12 to 15 | 12 to 15 | ..... |
| Joiners | .... | .... | .... | 17 to 20 | 12 to 15 | 12 to 14 | 12 to 15 | ..... |
| Ironfounders | .... | .... | .... | 16 to 20 | 14 to 16 | 12 to 14 | 11 to 13 | ..... |
| Locksmiths | .... | .... | .... | 18 to 22 | 16 to 18 | 12 to 15 | 10 to 13 | ..... |
| Quarrymen | .... | .... | .... | 18 to 21 | 16 to 18 | 12/6 to 15 | 14 to 16 | ..... |
| Shoemakers | .... | .... | .... | .... | 14 to 22 | 12 to 14 | 10 to 12 | ..... |
| Wheelwrights | 6 4 | 9 0 | 15 0 | 18 to 20 | 14 to 16 | 12 to 14 | 12 to 14 | 10 to 11 |
| Plasterers | .... | .... | 16 0 | 25 to 30 | 14 to 16 | 13 to 17 | 13 to 15 | ..... |
| Painters | .... | .... | .... | 13 to 16/8 | 13 to 14 | 10 to 12 | 8 to 12 | ..... |
| Stonemasons | 7 8 | 9 0 | 16 0 | 25 to 30 | .... | 12/6 to 15 | 13 to 15 | 10/6 to 11 |
| *Females, per annum, with board and lodging.* | | | | | | | | |
| | £ £ | £ £ | £ | £ | £ | £ | £ | £ |
| Cooks | 16 to 25 | 18 to 25 | 24 | 28 | 28 | 25 | 28 | 26 |
| Housemaids | 14 to 18 | 14 to 18 | 17 | 22 | 22 | 21 | 17 | 23 |
| Laundresses | 7 to 12 | 15 to 18 | 20 | 28 | 28 | 24 | 23 | 26 |
| Nursemaids | 9 to 15 | 16 to 18 | 17 | 18 | 18 | 18 | 18 | 19 |
| General servants | 14 to 18 | 16 to 18 | 18 | 28 | 23 | 22 | 23 | 25 |
| Farm-house servants | 13 | 14 | 15 | 25 | 22 | 20 | 19 | 25 |
| Dairy-women | 13 | 14 | 15 | 25 | 22 | 20 | 19 | 25 |

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During the period from 1859 to 1862 embraced in the ensuing table, the state was undergoing the process of recovery from the excitement and unrest of the gold-fever years. Wages, as recorded for the period, may be regarded as merely nominal, as employment was difficult to obtain, and speculation was quiescent. The following are given as the ruling rates in the prominent trades and callings :—

| Trade or Calling. | 1859. | 1860. | 1861. | 1862. |
|---|---|---|---|---|
| *Males, per day, without board and lodging.* | | | | |
| Carpenters | s. d. 9 6 | s. d. 10 6 | s. d. 10 0 | s. d. 10 0 |
| Blacksmiths | 9 6 | 10 6 | 10 0 | 10 0 |
| Wheelwrights | 9 6 | 10 0 | 10 6 | 10 6 |
| Bricklayers | 10 6 | 10 6 | 11 0 | 13 0 |
| Masons | 9 9 | 11 6 | 11 9 | 10 0 |
| *Males, per annum, with board and lodging.* | | | | |
| Farm Labourers | £ 30 to 40 | £ 30 to 40 | £ 30 to 40 | £ 30 to 40 |
| Shepherds | 30 to 35 | 30 to 35 | 30 to 35 | 35 |
| *Females, per annum, with board and lodging.* | | | | |
| Cooks | £ 25 to 30 | £ 25 to 30 | £ 25 to 30 | £ 26 to 40 |
| Housemaids | 16 to 18 | 16 to 25 | 20 to 25 | 20 to 26 |
| Laundresses | 20 to 25 | 25 to 30 | 25 to 30 | 30 to 40 |
| Nursemaids | 15 to 18 | 15 to 20 | 15 to 20 | 15 to 25 |
| General House Servants | 20 to 25 | 18 to 25 | 20 to 25 | 25 |
| Farm Servants and Dairy-women | 15 to 20 | 18 to 25 | 20 to 25 | 22 |

In the next table will be found the rate of wages for the period 1863–1871. There was a marked decline in the rates of wages during this period, particularly so with regard to those paid to mechanics. In 1864 the average daily wages of carpenters ranged from 8s. to 9s. in town, without board and lodging; of smiths, wheelwrights, and bricklayers, from 9s. to 10s.; and of masons, 10s. In the country, and inclusive of board and lodging, the wages of carpenters, smiths, and wheelwrights were quoted at £50 to £80 per annum, and of bricklayers and masons from £80 to £100; farm labourers, from £28 to £30; shepherds, from £30 to £35; female cooks and laundresses, from £26 to £30; housemaids, from £20 to £26; nursemaids, from £15 to £26; general house servants, from £20 to £30; and farm-house servants and dairy-women from £18 to £26. In 1865 female cooks received up to £36 per annum, with board and lodging; and general house servants, from £20 to £26. This showed a decline on the

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rates of wages ruling in 1863, when mechanics received from 9s. to 10s. per day, and from £65 to £100 per annum; and farm labourers and shepherds from £30 to £35. The wages of female servants were not, however, very considerably affected. In 1871, workmen in the metropolis convened meetings to protest against the reduction of wages; nevertheless, there were numbers who could not obtain employment. The wages of carpenters, smiths, and wheelwrights were then quoted as ranging from 8s. to 9s. per day, and from £50 to £70 per annum; of bricklayers, from 8s. to 10s. per day, and from £60 to £80 per annum; and of masons, from 8s. to 9s. per day, and from £60 to £80 per annum. The wages of farm-labourers were quoted as ranging from £26 to £30; shepherds, from £26 to £35; female cooks, at £30; housemaids, from £20 to £26; laundresses, from £26 to £30; nursemaids, from £13 to £25; and general house servants and dairy-women from £20 to £26. The average wages per day or per week, for each year during the period, were as follow :—

| Trade or Calling. | 1863. | 1864. | 1865. | 1866. | 1867. | 1868. | 1869. | 1870. | 1871. |
|---|---|---|---|---|---|---|---|---|---|
| *Males, per day, without board and lodging.* | | | | | | | | | |
| | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. |
| Carpenters | 9 0 | 8 6 | 8 6 | 8 6 | 8 6 | 8 6 | 8 0 | 8 6 | 8 6 |
| Blacksmiths | 9 6 | 9 6 | 9 6 | 9 6 | 9 6 | 9 6 | 9 6 | 10 0 | 8 6 |
| Wheelwrights | 9 6 | 9 6 | 9 6 | 9 6 | 9 6 | 9 6 | 8 6 | 8 8 | 8 6 |
| Bricklayers | 10 0 | 9 6 | 9 6 | 9 6 | 9 6 | 9 6 | 8 6 | 10 6 | 9 0 |
| Masons | 10 0 | 10 0 | 10 0 | 10 0 | 10 0 | 10 0 | 8 6 | 9 6 | 8 6 |
| *Males, per week, with board and lodging.* | | | | | | | | | |
| Farm labourers | 13 0 | 11 6 | 11 6 | 11 6 | 11 6 | 11 6 | 12 3 | 12 9 | 10 9 |
| Shepherds | 13 0 | 13 0 | 13 0 | 13 0 | 13 0 | 13 0 | 13 3 | 12 9 | 11 9 |
| *Females, per week, with board and lodging.* | | | | | | | | | |
| Cooks | 11 0 | 11 0 | 12 0 | 10 0 | 11 0 | 11 0 | 11 3 | 10 9 | 11 6 |
| Housemaids | 9 0 | 9 0 | 9 0 | 9 0 | 9 0 | 10 0 | 9 0 | 9 0 | 9 0 |
| Laundresses | 11 0 | 11 0 | 9 0 | 10 0 | 10 0 | 12 0 | 10 9 | 10 9 | 10 9 |
| Nursemaids | 8 0 | 8 0 | 8 0 | 7 0 | 7 0 | 8 0 | 8 0 | 8 0 | 8 0 |
| General servants | 10 0 | 10 0 | 9 0 | 9 0 | 9 0 | 11 0 | 10 0 | 10 9 | 9 0 |
| Farm-house servants and dairy-women | 8 6 | 8 6 | 8 6 | 9 0 | 9 0 | 10 0 | 9 0 | 9 0 | 9 0 |

In considering the table just given regard must be paid to the fact that although there was a considerable decline in the daily wage received by skilled mechanics, the prices of commodities in general use also steadily fell.

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The ruling rates of wages for each year from 1872 to 1886 are given in the following table, the quotations being classified as daily or weekly according to the ordinary modes of payment :—

| Trade or Calling. | 1872. | | 1873. | | 1874. | | 1875. | | 1876. | | 1877. | | 1878. | | 1879. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Males, per day, without board and lodging.* | | | | | | | | | | | | | | | | |
| | s. | d. | s. | d. | s. | d. | s. | d. | s. | d. | s. | d. | s. | d. | s. | d. |
| Carpenters | 9 | 0 | 10 | 0 | 9 | 0 | 9 | 6 | 10 | 0 | 10 | 8 | 10 | 8 | 10 | 8 |
| Blacksmiths | 9 | 0 | 10 | 0 | 11 | 0 | 10 | 3 | 11 | 0 | 11 | 0 | 10 | 0 | 10 | 0 |
| Bricklayers | 9 | 6 | 10 | 0 | 11 | 0 | 11 | 0 | 12 | 0 | 11 | 0 | 11 | 0 | 11 | 0 |
| Masons | 9 | 6 | 10 | 0 | 11 | 0 | 11 | 0 | 11 | 0 | 11 | 0 | 10 | 6 | 10 | 6 |
| Plasterers | 10 | 0 | 10 | 0 | 11 | 0 | 11 | 0 | 12 | 0 | 11 | 6 | 11 | 6 | 11 | 6 |
| Painters | 9 | 0 | 9 | 0 | 9 | 0 | 9 | 6 | 9 | 6 | 9 | 6 | 9 | 6 | 9 | 6 |
| Boilermakers | 9 | 0 | 10 | 0 | 10 | 0 | 10 | 0 | 10 | 0 | 10 | 0 | 10 | 0 | 10 | 0 |
| Labourers and navvies | 7 | 0 | 7 | 0 | 7 | 0 | 7 | 0 | 7 | 0 | 7 | 0 | 7 | 0 | 8 | 0 |
| Brickmakers (at per 1,000) | ... | | ... | | ... | | ... | | 22 | 6 | 22 | 6 | 23 | 9 | 23 | 9 |
| *Males, per week, with board and lodging.* | | | | | | | | | | | | | | | | |
| Farm labourers | 14 | 0 | 13 | 0 | 14 | 0 | 15 | 0 | 15 | 0 | 15 | 0 | 15 | 0 | 15 | 0 |
| Shepherds | 14 | 0 | 14 | 0 | 14 | 0 | 15 | 0 | 15 | 0 | 15 | 0 | 14 | 6 | 14 | 6 |
| *Females, per week, with board and lodging.* | | | | | | | | | | | | | | | | |
| Housemaids | 9 | 0 | 10 | 6 | 10 | 6 | 11 | 0 | 11 | 6 | 11 | 6 | 11 | 6 | 11 | 6 |
| Laundresses | 10 | 6 | 10 | 6 | 13 | 6 | 14 | 0 | 14 | 6 | 14 | 6 | 14 | 6 | 14 | 6 |
| Nursemaids | 7 | 6 | 9 | 0 | 9 | 0 | 10 | 0 | 10 | 6 | 10 | 6 | 10 | 6 | 11 | 6 |
| General servants | 10 | 0 | 10 | 6 | 10 | 6 | 12 | 6 | 14 | 0 | 14 | 0 | 14 | 0 | 14 | 0 |
| Cooks | 10 | 6 | 13 | 6 | 13 | 6 | 13 | 6 | 16 | 0 | 16 | 0 | 17 | 6 | 18 | 6 |

| Trade or Calling. | 1880. | | 1881. | | 1882. | | 1883. | | 1884. | | 1885. | | 1886. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Males, per day, without board and lodging.* | | | | | | | | | | | | | | |
| | s. | d. | s. | d. | s. | d. | s. | d. | s. | d. | s. | d. | s. | d. |
| Carpenters | 10 | 0 | 10 | 0 | 11 | 0 | 11 | 0 | 11 | 0 | 11 | 0 | 9 | 0 |
| Blacksmiths | 10 | 0 | 9 | 6 | 10 | 0 | 10 | 0 | 10 | 0 | 10 | 0 | 9 | 6 |
| Bricklayers | 11 | 0 | 11 | 0 | 12 | 6 | 12 | 6 | 12 | 6 | 12 | 6 | 11 | 0 |
| Masons | 10 | 6 | 10 | 6 | 11 | 6 | 11 | 6 | 11 | 6 | 11 | 6 | 11 | 0 |
| Plasterers | 11 | 6 | 11 | 6 | 12 | 0 | 12 | 0 | 12 | 0 | 12 | 6 | 11 | 0 |
| Painters | 9 | 6 | 9 | 6 | 11 | 0 | 11 | 0 | 11 | 0 | 11 | 0 | 9 | 0 |
| Boilermakers | 9 | 6 | 9 | 6 | 9 | 6 | 9 | 6 | 9 | 6 | 9 | 6 | 10 | 0 |
| Labourers and navvies | 8 | 0 | 8 | 0 | 8 | 0 | 8 | 0 | 8 | 0 | 8 | 0 | 8 | 0 |
| Brickmakers (at per 1,000) | 23 | 9 | 23 | 9 | 23 | 9 | 23 | 9 | 23 | 9 | 23 | 9 | 23 | 9 |
| *Males, per week, with board and lodging.* | | | | | | | | | | | | | | |
| Farm labourers | 15 | 0 | 15 | 0 | 17 | 6 | 17 | 6 | 17 | 6 | 17 | 6 | 17 | 0 |
| Shepherds | 14 | 6 | 14 | 6 | 15 | 0 | 15 | 0 | 15 | 0 | 15 | 0 | 15 | 0 |
| *Females, per week, with board and lodging.* | | | | | | | | | | | | | | |
| Housemaids | 11 | 6 | 11 | 6 | 13 | 0 | 13 | 0 | 13 | 0 | 13 | 0 | 13 | 0 |
| Laundresses | 14 | 6 | 14 | 6 | 17 | 6 | 17 | 6 | 17 | 6 | 17 | 6 | 17 | 6 |
| Nursemaids | 11 | 6 | 11 | 6 | 11 | 6 | 11 | 6 | 11 | 6 | 11 | 6 | 11 | 6 |
| General servants | 14 | 0 | 14 | 0 | 15 | 0 | 15 | 0 | 15 | 0 | 15 | 0 | 15 | 0 |
| Cooks | 18 | 6 | 18 | 6 | 18 | 6 | 18 | 6 | 18 | 6 | 18 | 6 | 18 | 6 |

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The importation of private capital had a very marked effect on wages ruling in the foregoing period. During the fifteen years which closed with 1890, an amount of £44,000,000 was received, £6,228,000 coming in 1885, and £5,392,000 in the following year. The outlay on public works reached its maximum in 1885, when the expenditure was £5,242,807, falling however in 1888 to £2,106,027. At no period, except in the five golden years, 1853–57, were wages so high, and at no period was the purchasing power of money so great. The tide of improvement reached its highest level during the period 1882–85, but with the disturbed industrial conditions during 1886–87 it began to recede.

The succeeding table gives the rates of wages over the period from 1887 to the middle of 1893. Up to the end of 1891 there was little reduction in the nominal rate of wages in skilled trades, though for unskilled labour the rates experienced a decided decline. In 1893 there was a heavy fall all round, and the second half of that year marks the beginning of a new industrial period under vastly changed conditions, which will be referred to later on :—

| Trade or Calling. | 1887. | 1888. | 1889. | 1890. | 1891. | 1892 and first half 1893. |
|---|---|---|---|---|---|---|
| *Males, per day, without board and lodging.* | | | | | | |
| | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. |
| Carpenters | 9 6 | 10 6 | 11 0 | 9 6 | 9 6 | 9 6 |
| Blacksmiths | 10 8 | 9 8 | 8 6 | 8 6 | 9 8 | 9 8 |
| Bricklayers | 11 6 | 10 6 | 11 0 | 10 0 | 10 0 | 10 0 |
| Masons | 10 6 | 10 6 | 11 0 | 10 0 | 10 0 | 9 8 |
| Plasterers | 11 0 | 11 0 | 10 6 | 10 6 | 10 0 | 10 0 |
| Painters | 9 0 | 9 0 | 9 6 | 9 6 | 9 6 | 9 0 |
| Boilermakers | 10 2 | 9 0 | 10 0 | 10 0 | 9 8 | 10 2 |
| Labourers and Navvies | 8 0 | 8 0 | 8 0 | 8 0 | 8 0 | 6 7 |
| *Males, per week, with board and lodging.* | | | | | | |
| Farm labourers | 17 8 | 17 8 | 15 4 | 15 4 | 15 4 | 13 6 |
| Shepherds | 15 4 | 15 4 | ..... | ..... | ..... | ..... |
| *Females, per week, with board and lodging.* | | | | | | |
| Housemaids | 13 6 | 13 6 | 14 0 | 14 0 | 14 0 | 10 0 |
| Laundresses | 18 8 | 18 8 | 18 0 | 18 0 | 18 0 | 14 0 |
| Nursemaids | 11 4 | 11 4 | 8 6 | 8 6 | 8 6 | 8 6 |
| General servants | 16 8 | 13 6 | 14 0 | 14 0 | 14 0 | 11 6 |
| Cooks | 21 0 | 21 0 | 25 0 | 25 0 | 25 0 | 14 0 |

It is idle to speculate as to what would have been the course of industrial history had the banking crisis of 1893 not occurred. It may, however, be mentioned that wages had shown signs of falling before the suspensions took place. Between the first and second half of 1893

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there was a fall of about 10 per cent. in the wages of mechanics, and a somewhat greater fall in the wages of unskilled labourers. In 1894 there was no further fall, but employment became more restricted. In 1895, however, there was a still further drop, the wages of the year averaging for skilled workmen 22 per cent. below the rates of 1892, and for unskilled labourers about 17½ per cent. During 1896 wages in several trades rose, and since then there have been some further advances, and generally more regular employment than at any time since the bank crisis. In 1898, 1899 and 1900, employment in the building trades was plentiful, and the wages of masons, bricklayers, and allied trades rose to a point which they had not reached since 1889.

During the period under review there has been a stoppage of nearly all forms of speculative activity; on the other hand, there has been a marked extension of agriculture and important mining developments. From 1891 to 1900 the area under crop was increased by 1,592,860 acres, and the output of gold by 192,067 ounces. The following were the average wages for the more important trades:—

| Trade or Calling. | 1893 (second half) and 1894. | 1895. | 1896. | 1897. | 1898. | 1899. | 1900. |
|---|---|---|---|---|---|---|---|
| *Males, per day, without board and lodging.* | | | | | | | |
| | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. |
| Carpenters | 9 6 | 8 0 | 8 0 | 8 6 | 9 0 | 9 0 | 9 6 |
| Blacksmiths | 8 0 | 6 8 | 8 6 | 9 0 | 9 0 | 8 6 | 9 0 |
| Bricklayers | 9 6 | 8 6 | 9 0 | 9 0 | 9 0 | 9 8 | 11 0 |
| Masons | 8 6 | 7 8 | 9 0 | 9 0 | 9 0 | 10 3 | 11 0 |
| Plasterers | 8 6 | 7 0 | 7 0 | 8 0 | 8 0 | 8 6 | 9 6 |
| Painters | 8 0 | 7 0 | 7 0 | 8 0 | 8 0 | 7 0 | 9 0 |
| Boilermakers | 9 0 | 8 0 | 8 6 | 10 0 | 10 0 | 10 1 | 10 3 |
| Labourers and Navvies | 6 0 | 6 0 | 6 0 | 6 0 | 6 6 | 6 9 | 6 10 |
| *Males, per week, with board and lodging.* | | | | | | | |
| Farm labourers | 12 6 | 12 6 | 12 6 | 13 6 | 14 0 | 13 6 | 16 3 |
| *Females, per week, with board and lodging.* | | | | | | | |
| Housemaids | 10 0 | 10 0 | 10 0 | 11 0 | 11 0 | 11 6 | 11 3 |
| Laundresses | 14 0 | 14 0 | 14 0 | 15 0 | 15 0 | 18 6 | 18 9 |
| Nursemaids | 7 6 | 7 6 | 7 6 | 7 6 | 7 6 | 7 0 | 7 0 |
| General servants | 11 6 | 11 6 | 11 6 | 11 6 | 11 6 | 11 0 | 11 0 |
| Cooks | 14 0 | 14 0 | 14 0 | 14 0 | 15 0 | 20 0 | 20 0 |

## Wages in relation to Cost of Living.

For the periods under review in the foregoing pages money wages have alone been dealt with, but it is a matter of much greater importance to ascertain the rate of real wages—that is, the purchasing power of wages in comparison with their nominal value. Such a comparison must

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necessarily be defective in some respects, since with changing conditions come other forms of labour, and with higher wages greater consumption, so that in comparing present times with days long past there is danger of weighing what is now important against what was formerly of no consequence; notwithstanding this it gives a more exact notion of the value of wages at different periods than can be obtained in any other way. It also affords the only true standard by which material conditions at different times can be accurately gauged. In the following table are compared an ordinary mechanic's wages in money, the level of real wages on the basis of their purchasing power, and the price level of the principal articles of consumption, for each period commencing with the year 1821. It has been thought unnecessary to extend the comparison to the first period of the history of the state, as the conditions of industrial life, shown in the foregoing pages, allowed little play for the operations of economic laws:—

| Period. | Level of Money Wages (Mechanics). | | Price level of principal Articles of Food. | | Level of real Wages. | |
|---|---|---|---|---|---|---|
| | 1821–37 Wages = 1000. | 1899–1900 Wages = 1000. | 1821–37 Prices = 1000. | 1899–1900 Prices = 1000. | 1821–37 Wages = 1000. | 1899–1900 Wages = 1000. |
| 1821–1837 | 1,000 | 688 | 1,000 | 1,384 | 1,000 | 497 |
| 1838–1842 | 1,154 | 794 | 1,032 | 1,429 | 1,118 | 556 |
| 1843–1852 | 769 | 529 | 712 | 986 | 1,080 | 535 |
| 1853–1858 | 2,400 | 1,640 | 1,301 | 1,801 | 1,845 | 911 |
| 1859–1862 | 1,615 | 1,111 | 1,147 | 1,588 | 1,408 | 700 |
| 1863–1872 | 1,461 | 1,005 | 865 | 1,197 | 1,689 | 840 |
| 1873–1892 | 1,583 | 1,090 | 809 | 1,120 | 1,957 | 973 |
| 1893–1898 | 1,231 | 847 | 689 | 954 | 1,787 | 888 |
| 1899–1900 | 1,454 | 1,000 | 722 | 1,000 | 2,012 | 1,000 |

During the years 1821 to 1837 the transportation system was still in full operation, and wage-earners had to compete with bond labour, or with men who, though free, had been so long accustomed to the hard conditions of servitude that a little above a convict ration seemed as much as they could expect to earn; hence the very low level of both real and money wages during the period. During the next series of years, 1838-42, wages rose 15 per cent., and, as prices rose only 3 per cent., the level of real wages may be said to have advanced about one-eighth. As will have been gathered from the description in previous pages, this period closed disastrously, and wages fell 33 per cent.; as it happened, however, the cost of necessaries fell almost as heavily, and real wages were in reality only slightly worse for the whole period from 1843 to 1852 than previously, although several years showed a condition of things worse than was ever known in the history of the state. When the full force of the discovery of gold began to be felt the depression vanished and wages rose prodigiously, and at one time averaged nearly thrice as much as those now current. Food and

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other necessaries also advanced, but not to the same extent as wages; so that, estimated by their purchasing power, wages of mechanics were 84 per cent. higher than in 1821-37, 65 per cent. higher than in 1838-42, and 71 per cent. higher than from 1843 to 1852. The years 1854 and 1855, taken by themselves, show a rate, both of real and of money wages, much higher than that indicated for the whole period, and perhaps higher than attained in any other year; but taking the gold era as extending from 1853 to 1858, the level of real wages—that is, their purchasing power—was only about 24 per cent. greater than in the subsequent period, as the foregoing table shows. From 1853-58 to 1859-62 there was a fall of 33 per cent. in money wages, but prices fell 12 per cent. and the level of real wages, as already stated, 24 per cent. During the next period there was a further fall in money wages, but not to any great extent; while the drop in prices was heavy, far more than compensating for the fall in wages. During the next period, 1873-92, wages rose and prices fell, so that the level of real wages was far higher than at any other time in the history of the state. Looked at from the point of view of the manual labourer, the twenty years embraced within this period were in the highest degree satisfactory, and it is hardly likely they will be repeated. As explained in a former page, prosperity was due to the adventitious stimulus which the industrial life of the state received from the borrowing policy which infected not only the Government but all associations for the investment of capital. The state, after the severe regimen of the banking crisis, and the slow recovery of 1894 and 1895, has at length entered upon a period of development which promises to be more substantial, if less showy, than the latter years of the period 1873–92. The prosperity and contentment of the industrial population is often quoted as the prime test of the progress of a country. In New South Wales from 1884 to 1888, and perhaps in some other years, these very desirable conditions were obtained under circumstances which have laid a lasting debt-obligation on the community, and which indirectly conduced to the crisis of 1893.

The improvement in the lot of farm and station labourers and female servants is still more marked. The rise in wages of male hands has, excepting the period 1843-52, been continuous, while the increase in the pay of females has suffered no interruption, even during the disastrous years preceding the gold discovery. Coincident with the rise of nominal wages which the foregoing table exhibits, there has been a marked advance in the standard of living of the working population of the state, an advance even more rapid than that of wages. The cheapening of many articles of food and dress which has taken place of late years without a corresponding fall of wages, has enabled the homes of the bulk of the population to be made more comfortable. The acquisition of comforts begets the desire for further comforts, and it is therefore unlikely that any fall in wages will be assented to which will necessitate the labouring classes decreasing the standard of living they

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now enjoy. In this connection it may be pointed out that the evidence of the savings banks cannot be taken as conclusive of the prosperity or depression of the working population; for if the standard of living indulged in be raised more rapidly than the rate of wages, it is obvious that the margin out of which savings are made will be decreased, although the actual condition of the masses may be materially advanced.

In the foregoing pages the condition of the worker has been considered apart from the value of his production. This latter, however, can by no means be overlooked in a review of the industrial progress of the state, for it is quite possible that what are commonly called prosperous times may be marked by a neglect of productive pursuits, and be due to uneconomic causes, such as the mortgaging of the resources of future years to feed the present. Something of the kind has taken place in New South Wales, and the existing depression is, in some sense, a reaction against the industrial conditions of former years. On page 114 is given a comparison of the exports of domestic produce over a series of years, reduced to the common level of 1900 prices. From this it appears that, judged by the volume of production—and the exports of domestic produce give a fairly reliable index to production—the lowest point reached during the past twenty-five years was in 1886; but that year was so marked by lavish state expenditure and by the influx of British capital that little attention was paid at the time to the low condition of productive enterprise. After the year named there was a remarkable development in the export of domestic produce, brought about by increased attention paid to productive pursuits, the opening up of the silver-mines, and a fortunate succession of favourable seasons. The year 1891 was the point of highest production, both absolutely and relatively, and though the following year was marked by a fall in the values exported, the rates for the years 1893 to 1900 compare very favourably with other years, and it would certainly appear that notwithstanding the reaction against the inflation of land values so prevalent a few years ago, and the succession of bad seasons which the province is passing through, there is nothing in the circumstances of the state to warrant the distrust of the future which has prevailed in certain quarters, and which directly led to the financial scare of 1893.

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# FOOD COST OF LIVING AND PRICES

## Food Supply.

THE soil of New South Wales is capable of producing in abundance most of the things essential for the sustenance of human life, though the production of some of these necessaries has been almost entirely neglected, while others are obtained in quantities insufficient for the wants of the community. Considering the comparatively high rate of wages which prevails, food of all kinds is fairly cheap, and articles of diet which in other countries are almost within the category of luxuries are in New South Wales largely consumed even by the poorest classes.

The cost of providing food, and beverages other than intoxicants, consumed in the state during the year 1900 may be set down at £18,347,000. This sum represents the price to the consumer, and covers all charges except that of cooking and preparing the food for the table. The expenditure on wines, spirits, and beer amounted to £4,769,000, so that the total expenditure for all food and beverages was £23,116,000, equal to £17 1s. 4d. per inhabitant, or 11·4d. daily. Excluding intoxicants, the yearly expenditure per inhabitant was £13 10s. 11d., and the average per day, 8·9d. Compared with the cost of food supply in other countries, this sum will not appear considerable, especially when allowance is made for the profusion with which flesh meat is consumed and wasted in New South Wales. The following figures are taken from Mulhall's *Dictionary of Statistics*, and show the annual expenditure per head of the more important European countries and of the United States and Canada :—

| Country. | Per Inhabitant. | | | Country. | Per Inhabitant. | | |
|---|---|---|---|---|---|---|---|
| | £ | s. | d. | | £ | s. | d. |
| United Kingdom ... | 14 | 4 | 9 | Norway ..... | 9 | 15 | 0 |
| France ..... | 12 | 4 | 5 | Denmark ..... | 11 | 14 | 0 |
| Germany ..... | 10 | 18 | 5 | Holland ..... | 10 | 8 | 0 |
| Russia ..... | 5 | 19 | 7 | Belgium ..... | 12 | 3 | 1 |
| Austria ..... | 7 | 17 | 4 | Switzerland ..... | 8 | 11 | 7 |
| Italy ..... | 6 | 4 | 10 | Roumania ..... | 6 | 10 | 0 |
| Spain ..... | 8 | 9 | 0 | Servia ..... | 6 | 10 | 0 |
| Portugal ..... | 7 | 3 | 0 | United States ..... | 9 | 17 | 7 |
| Sweden ..... | 9 | 18 | 11 | Canada ..... | 8 | 9 | 0 |

There has been a falling off in the value of the articles of food consumed in New South Wales during the last few years, due both to a

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decrease in the quantities consumed and to a decline in prices. As late as 1892 the value of food and beverages consumed amounted to 12½d. per head daily, or exclusive of intoxicants, to 10d.; while in 1900 these amounts had fallen to 11½d. and 9d. respectively.

The main articles of consumption in the state are meat and bread, the retail value of which exceeds 42 per cent. of the total expenditure on food. The following is the approximate retail cost of the chief articles which enter into daily consumption :—

| | £ |
|---|---|
| Bread | 2,561,000 |
| Fresh meat | 5,202,000 |
| Vegetables and fruits | 3,155,000 |
| Milk, butter, cheese, etc. | 3,773,000 |
| Other farm produce | 454,900 |
| Sugar | 1,537,060 |
| Tea, coffee, etc. | 897,000 |
| Other foods | 454,000 |
| Non-alcoholic beverages | 314,000 |
| Total expenditure on food | 18,347,000 |
| Wines, beer, and spirituous liquors | 4,769,000 |
| Total expenditure on food and beverages | £23,116,000 |

The quantities of the principal articles of diet annually required by each member of the community are estimated to be as follow :—

| | | | |
|---|---|---|---|
| Flour | | | 238·2 lb. |
| Oatmeal | | | 7·0 „ |
| Rice | | | 9·7 „ |
| Meat | Beef ..... 166·5 lb. | | |
| | Mutton ..... 118·8 „ | | 297·2 „ |
| | Pork, &c. ... 11·9 „ | | |
| Potatoes | | | 197·7 „ |
| Sugar | | | 107·8 „ |
| Butter | | | 19·6 „ |
| Cheese | | | 3·7 „ |
| Tea | | | 7·9 „ |
| Coffee | | | 8·0 oz. |
| Cocoa and chocolate | | | 8·7 „ |

For the year 1901 the total demand of the state for the above classes of food will be approximately :—

| | | |
|---|---|---|
| Flour | 161,900 | tons. |
| Oatmeal | 4,200 | „ |
| Rice | 5,900 | „ |
| Meat — Beef | 101,000 | „ |
| Meat — Mutton | 72,100 | „ |
| Meat — Pork and bacon | 7,200 | „ |
| Potatoes | 120,000 | „ |
| Sugar | 65,400 | „ |
| Butter | 11,900 | „ |
| Cheese | 2,200 | „ |
| Tea | 10,737,200 | lb. |
| Coffee | 679,500 | „ |
| Cocoa and chocolate | 739,000 | „ |

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The area under wheat in the state has increased so rapidly during the last few years that unless there should be a failure of the harvest a surplus of wheat is now available for exportation. Based on the consumption of the three years, 1898–1900, of 6·1 bushels per head, the demand of 1901, exclusive of seed, will be about 8,231,000 bushels, while the requirements for seed will be 2,504,000 bushels. Out of a harvest estimated at 18,769,000 bushels, there should thus be an exportable surplus of approximately 8,034,000 bushels.

Oatmeal and rice are the only other articles of cereal produce largely consumed. Rice is not grown to any extent in the state, and the quantity required is imported either directly or indirectly from China and India. The land adapted for the growth of this plant in New South Wales is not very extensive in area, and is probably put to better use. Oatmeal, once largely imported, has of late years been manufactured extensively in the state.

In the matter of meat supply the state is almost independent of external assistance. The consumption of fresh meat of all kinds is extremely great, and, though possibly less than in the neighbouring state of Queensland, it exceeds per head that of any other country. The requirements of the state for food alone amounted in 1900 to nearly 400,000 head of cattle, and 2,805,000 head of sheep; and though the supply of cattle sufficient to meet the demand was beyond its resources, the number of sheep available for market very largely exceeded even the number given above, and were it not that beef is preferred to mutton, no stock need have been imported for slaughtering.

The swine slaughtered for food during 1900 numbered 105,916. The quantity of bacon and hams made, according to the returns collected, was 10,863,125 lb., and the quantity imported for local requirements during the year was 2,198,143 lb. The annual consumption per head of pork and its manufactured products, averages about 11·9 lb.

The amount of potatoes imported for local consumption during 1900 was 51,785 tons, while the quantity available from the fields of the state, after allowing for seed and exports, was 50,453 tons. The net imports amounted, therefore, to 51 per cent. of the total consumption, as compared with 45 per cent. in 1899, 32 per cent. in 1898, and 50 per cent. in 1897.

The consumption of sugar is enormous, averaging about 107·8 lb. per head during each year. The fields of the state produced during 1900 about 29,449 tons, or 43,759 tons short of the local demand, the bulk of which was imported from Queensland. As pointed out in the pages relating to agriculture, a large part of the state is well adapted to the growth of sugar-cane; but the low price which sugar brought some few years ago, when the market was affected by the bounties given by Germany and France, made the industry unprofitable, and the cultivation of cane was, to some extent, neglected. The considerable rise in the price of sugar during 1889 led to an increase of cultivation

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over that of the previous year, and this was followed by further extensions until during the season 1895–96 the area under cane amounted to nearly 33,000 acres. During the two following years, chiefly owing to the fear of the growers that the sugar duties would be altogether abolished, the area decreased by about 7,000 acres. As it was then decided to maintain the duties at 60 per cent. of their previous amount, it was anticipated that the area under cane, which in 1898–9 showed a further decrease of 1,000 acres, had reached its lowest extent, and would begin to increase once more. The figures for 1899–1900 showed, however, a further decrease of more than 2,000 acres, while in 1900–1901 there was also a slight decrease of 300 acres, due, no doubt, to the uncertainty as to the decision of the Federal Parliament regarding the sugar duties. The proposed duties on imported sugar are as follows :—Cane sugar, 6d. per cwt.; other sugar, 10s. per cwt.; while the excise duty proposed is 3s. per cwt. In connection with the latter duty, provision is made for a rebate of 4s. per ton from 1st July, 1902, and 6d. per ton from 1st January, 1907, on all sugar in the production of which white labour only has been employed. If the latter provisions are passed, and the Pacific Islanders Labourers Bill becomes law, the sugar-growing industry of this state will undergo a great revival, as the competition of Queensland, where black labour is extensively employed, will, to a certain extent, be counteracted.

The year 1890 proved very encouraging to the dairy farmers, and the quantity of butter and cheese manufactured was sufficient to meet local wants, and leave a small balance for export. The production of the succeeding season did not, however, equal the demand, as 1,419,400 lb. of butter and 224,397 lb. of cheese were imported for local requirements. In 1892, there was a surplus of 1,027,800 lb. of butter for export, while cheese to the amount of 53,700 lb. had to be imported to meet local requirements. Since then the production of butter has increased very rapidly, while the production of cheese has fallen off considerably, and in 1901 was only 3,558,823 lb., being nearly 2,000,000 less than 1891. In 1894 there were 4,600,000 lb. of butter and 229,000 lb. of cheese available for export ; but owing to the dry seasons the quantities available for export in the three succeeding years were comparatively small ; in 1898, however, there were 8,950,000 lb.; in 1899, 7,801,000 lb. ; and in 1900, 10,410,000 lb. of New South Wales butter exported. The consumption of butter and cheese during 1900 was 32,992,200 lb. and 5,062,300 lb. respectively.

The quantity of tea consumed is remarkably large, the average being 7 lb. 14 oz. per inhabitant, while of coffee the average consumption is 8 oz. The consumption of tea is universal throughout the states, and the four and a half million people in Australasia use fully twice the quantity of this beverage which is consumed by the millions who inhabit continental Europe, other than Russia. Though the soil and climate of a part of New South Wales are adapted to the cultivation

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of tea, no systematic attempt has been made to grow this plant. The coffee berry, especially the Liberian variety, thrives in the north coast district, but it has so far only been cultivated for commercial purposes to a very limited extent.

The average quantity of the principal articles of common diet is given herewith for the various states of Australia and for New Zealand. It will be seen that the consumption of wheat varies from 312·8 lb. in Victoria to 513·1 lb. in Western Australia, the average consumption in the Commonwealth being 349·7 lb. per head. Rice varies greatly in the quantity used, only 6·3 lb. being the consumption of Tasmania, as against 19·9 lb. in Western Australia. The consumption of tea is largest in Western Australia, South Australia, and New South Wales, —with 9·8 lb. in the first, and 8·1 lb. and 7·9 lb. respectively in the other two states. Of sugar, the average quantity used varies from 123·8 lb. per head in Queensland to 90·5 lb. in Tasmania, the average for New South Wales being 107·8 lb., and for the Commonwealth 103·5 lb. per head. Coffee is not a favourite beverage in Australasia, the consumption being only one-twelfth that of tea. It is used most largely in Western Australia and South Australia where the annual demand amounts to 13 oz. The particulars for each state are as follow:—

| Article. | New South Wales. | Victoria. | Queensland. | South Australia. | Western Australia. | Tasmania. | Commonwealth. | New Zealand. |
|---|---|---|---|---|---|---|---|---|
| Grain— | | | | | | | | |
| Wheat ..... lb. | 357·3 | 312·8 | 334·8 | 380·0 | 513·1 | 434·2 | 349·7 | 463·2 |
| Rice ..... lb. | 9·7 | 6·9 | 17·7 | 10·2 | 19·9 | 6·3 | 10·0 | 8·9 |
| Oatmeal ..... lb. | 7·0 | ... | 4·1 | 5·4 | 10·0 | 15·6 | 7·0 | 9·3 |
| Potatoes ..... lb. | 197·7 | 250·2 | 165·3 | 128·4 | 179·2 | 528·1 | 218·8 | 495·4 |
| Sugar ..... lb. | 107·8 | 93·0 | 123·8 | 100·2 | 114·5 | 90·5 | 103·5 | 93·9 |
| Tea ..... lb. | 7·9 | 6·9 | 7·4 | 8·1 | 9·8 | 6·2 | 7·5 | 6·3 |
| Coffee ..... lb. | 0·5 | 0·7 | 0·5 | 0·8 | 0·8 | 0·3 | 0·7 | 0·4 |
| Cheese ..... lb. | 3·7 | 3·2 | 4·2 | 2·6 | 6·2 | ... | 3·6 | 4·3 |
| Butter ..... lb. | 19·6 | 12·6 | 12·5 | 12·2 | 28·1 | ... | 15·8 | 18·8 |
| Salt ..... lb. | 42·8 | 17·2 | 62·7 | ... | 18·8 | 19·3 | 34·0 | 34·0 |
| Meat— | | | | | | | | |
| Beef ..... lb. | 166·5 | 122·1 | 280·0 | ... | 147·3 | 132·4 | 165·6 | 90·0 |
| Mutton ..... lb. | 118·8 | 75·7 | 90·0 | ... | 147·9 | 89·8 | 98·3 | 110·0 |
| Pork and Bacon ..... lb. | 11·9 | 11·5 | ... | ... | 28·7 | 15·7 | 12·4 | 12·5 |

The consumption of potatoes per head in some of the states is probably less than the foregoing table shows; thus in the case of Tasmania the returns show a consumption of 528 lb., and in New Zealand, of 495 lb. It is probable that potatoes are in some years grown in excess of the local requirements, and the market in New South Wales and other states not being sufficient to absorb this excess, it

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remains unconsumed or is given to live stock and poultry. Under the circumstances, it is impossible to determine the quantity actually entering into the food consumption of the population.

The consumption of salt appears excessive in some of the states, while the figures for South Australia cannot be ascertained. This may be explained by the fact that large quantities of salt are used in meat preserving, notably in New South Wales, Queensland, and also in New Zealand; while in South Australia salt, taken from lagoons, is manufactured into table salt in considerable quantities, of which there is, however, no record. Probably the quantity required for domestic consumption averages about 20 lb. in each state.

Judged by the standard of food consumed, the people of New South Wales, as well as of all the other states of the Commonwealth, are fortunately situated. Compared with those of other countries, this will most clearly appear from the following table, the particulars given in which, with the exception of those referring to New South Wales, have been taken from Mulhall's *Dictionary of Statistics*:—

| Country. | Per Inhabitant. | | | | | | | Daily Energy—Foot Tons. |
|---|---|---|---|---|---|---|---|---|
| | Grain. | Meat. | Sugar. | Butter and Cheese. | Potatoes. | Salt. | Tea and Coffee. | |
| | lb. | lb. | lb. | lb. | lb. | lb. | oz. | |
| United Kingdom | 378 | 109 | 75 | 19 | 380 | 40 | 91 | 3,552 |
| France | 540 | 77 | 20 | 8 | 570 | 20 | 66 | 3,914 |
| Germany | 550 | 64 | 18 | 8 | 1,020 | 17 | 78 | 4,629 |
| Russia | 635 | 51 | 11 | 5 | 180 | 19 | 6 | 3,483 |
| Austria | 460 | 61 | 18 | 7 | 560 | 14 | 28 | 3,495 |
| Italy | 400 | 26 | 8 | 4 | 50 | 18 | 20 | 2,112 |
| Spain | 480 | 71 | 6 | 3 | 20 | 17 | 6 | 2,567 |
| Portugal | 500 | 49 | 12 | 3 | 40 | 17 | 18 | 2,629 |
| Sweden | 560 | 62 | 22 | 11 | 500 | 28 | 112 | 3,904 |
| Norway | 440 | 78 | 13 | 14 | 500 | 40 | 144 | 3,489 |
| Denmark | 560 | 64 | 22 | 22 | 410 | 25 | 140 | 3,855 |
| Holland | 560 | 57 | 35 | 15 | 820 | 20 | 240 | 4,487 |
| Belgium | 590 | 65 | 27 | 15 | 1,050 | ... | 142 | 4,886 |
| Switzerland | 440 | 62 | 26 | 11 | 140 | ... | 110 | 2,658 |
| Roumania | 400 | 82 | 4 | 9 | 80 | ... | 8 | 2,325 |
| Servia | 400 | 84 | 4 | 9 | 80 | ... | 8 | 2,333 |
| United States | 370 | 150 | 53 | 20 | 170 | 39 | 162 | 3,218 |
| Canada | 400 | 90 | 45 | 22 | 600 | 40 | 72 | 3,797 |
| New South Wales | 374 | 297 | 108 | 23 | 198 | 43 | 134 | 3,982 |

Taking the articles of the foregoing list, with the exception of tea and coffee, and reducing them to a common basis of comparison, it will be found that the amount of thermo-dynamic power capable of being generated by the food consumed in this state is greater than that of any other country mentioned in the table. For the purpose of comparison,



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the figures of Dr. Edward Smith, F.R.S. in his well-known work on Foods, have been used, and the heat developed has been reduced to the equivalent weight lifted 1 foot high. In estimating the thermo-dynamic effect of food, grain has been reduced to its equivalent in flour, and regard has been paid to the probable nature of the meat consumed. The figures for potatoes are given as they appear in the *Dictionary of Statistics*, but it is a probable supposition that but a small proportion of the quantity over 400 lb. set down for any country is required for human consumption, and the figures relating to some of the countries are, therefore, excessive. The substances included in the table are largely supplemented both in America and in Europe by other foods, but not more so than in these states; and the figures given will probably afford a just view of the comparative quantity and food-value of the articles of consumption in each of the countries mentioned. The comparison will appear much more strongly in favour of these states when the average amount of work which each individual in the community is called upon to perform is taken into consideration. In Australasia the proportion of women and children engaged in laborious occupations is far smaller than in Europe and America, and the hours of labour of all persons are also less, so that the amount of food-energy required is reduced in proportion. If allowance be made for the fact that only 28 per cent. of the population are adult males, 24 per cent. women, and 48 per cent. children, the quantity of food consumed in New South Wales would appear to be far in excess of the actual requirements of the population, and though the excess may be looked upon as waste, it is none the less evidence of the wealth of the people whose circumstances permit them to indulge in it.

The following table gives the annual consumption of tobacco in Australasia and the principal countries of the world. The use of tobacco appears to be more prevalent in Western Australia than in any of the other states, while the least consumption is in South Australia. Compared with other parts of the world, the average consumption of Australasia will not appear excessive :—

| Country. | lb. | Country. | lb. |
|---|---|---|---|
| Australia— | | | |
| New South Wales | 2·59 | Austria-Hungary | 3·77 |
| Victoria | 2·07 | Italy | 1·34 |
| Queensland | 2·53 | Spain | 1·70 |
| South Australia | 1·89 | Holland | 6·92 |
| Western Australia | 4·92 | Belgium | 3·15 |
| Tasmania | 1·97 | Switzerland | 3·24 |
| Commonwealth | 2·40 | Sweden | 1·87 |
| New Zealand | 2·24 | Denmark | 3·70 |
| United Kingdom | 1·41 | Turkey | 4·37 |
| France | 2·05 | United States | 4·40 |
| Germany | 3·00 | Canada | 2·11 |
| Russia | 1·23 | Brazil | 4·37 |

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## Consumption of Intoxicants.

The consumption of wines, spirits, and fermented liquors although showing a slight annual increase during the last five years is still considerably below the rate in 1891, as will be seen from the following statement, showing the average consumption of spirit per inhabitant during the past ten years :—

| | Gallons. | | Gallons. |
|---|---|---|---|
| 1891 | 2·84 | 1896 | 2·12 |
| 1892 | 2·68 | 1897 | 2·17 |
| 1893 | 2·31 | 1898 | 2·22 |
| 1894 | 2·18 | 1899 | 2·27 |
| 1895 | 2·09 | 1900 | 2·44 |

These figures represent the amount of alcohol contained in the liquor consumed; the quantities are given in proof spirit as being a measure more easily understood, if less scientific, than that of absolute alcohol.

The decrease in the consumption within the last ten years is due to a combination of causes. The principal of these are the more stringent provisions of the Liquor Act, the decrease in the proportion of rougher labourers to the general community, and the spread of teetotal principles.

The volume of spirits consumed in the state during 1900 was 10,062 gallons of locally distilled, and 1,093,907 gallons of imported spirits, in all 1,103,969 gallons, equal to 0·82 gallons per head, being 164,399 gallons less than the consumption during the year 1891, as will appear from the following table :—

| Year. | Quantity Consumed. | | Year. | Quantity Consumed. | |
|---|---|---|---|---|---|
| | Total. | Per Inhabitant. | | Total. | Per Inhabitant. |
| | gallons. | gallons. | | gallons. | gallons. |
| 1891 | 1,268,368 | 1·11 | 1896 | 941,715 | 0·73 |
| 1892 | 1,184,042 | 1·00 | 1897 | 926,605 | 0·71 |
| 1893 | 999,984 | 0·83 | 1898 | 986,325 | 0·74 |
| 1894 | 952,170 | 0·77 | 1899 | 1,005,799 | 0·75 |
| 1895 | 921,468 | 0·73 | 1900 | 1,103,969 | 0·82 |

The average consumption of beer per head of population declined from 1891 to 1895, but has again gradually increased during the last five years. From the following statement it will be found that while the quantity of beer imported declined in 1900 the quantity locally brewed

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and the total consumption of the year were higher than those of any other year of the decennial period :—

| Year. | Locally brewed. | Imported. | Total. | Per Inhabitant. |
|---|---|---|---|---|
| | gallons. | gallons. | gallons. | gallons. |
| 1891 | 10,594,000 | 2,464,000 | 13,058,000 | 11·43 |
| 1892 | 10,688,000 | 2,201,000 | 12,889,000 | 10·94 |
| 1893 | 9,642,000 | 1,536,000 | 11,178,000 | 9·27 |
| 1894 | 9,392,000 | 1,709,000 | 11,101,000 | 9·02 |
| 1895 | 9,708,000 | 1,629,000 | 11,337,000 | 9·02 |
| 1896 | 10,073,000 | 1,700,000 | 11,773,000 | 9·21 |
| 1897 | 10,688,500 | 1,771,500 | 12,460,000 | 9·59 |
| 1898 | 11,533,000 | 1,574,000 | 13,107,000 | 9·91 |
| 1899 | 12,106,000 | 1,629,000 | 13,735,000 | 10·21 |
| 1900 | 13,274,734 | 1,618,966 | 14,893,700 | 11·00 |

The amount of beer drunk in 1891 was 13,058,000 gallons, of which 10,594,000 gallons were the produce of the state, representing 81·1 per cent. of the total consumption. In 1900 the quantity had risen to 14,893,700 gallons, of which the proportion locally made was 89·1 per cent. During the same period, however, the consumption per head declined from 11·43 to 11·00 gallons.

The wine entering into consumption in New South Wales is chiefly the produce of its own vineyards; the quantity is, however, much less than might be expected in a country so eminently adapted to vine culture. The consumption per inhabitant is little more than half of that of Victoria. The quantity of Australian and foreign wines consumed during each of the past ten years is shown below :—

| Year. | Australian. | Foreign. | Total. | Per Inhabitant. |
|---|---|---|---|---|
| | gallons. | gallons. | gallons. | gallons. |
| 1891 | 788,038 | 173,541 | 961,579 | 0·84 |
| 1892 | 885,250 | 135,894 | 1,021,144 | 0·87 |
| 1893 | 921,579 | 97,551 | 1,019,130 | 0·85 |
| 1894 | 901,156 | 82,489 | 983,645 | 0·80 |
| 1895 | 727,372 | 80,685 | 808,057 | 0·64 |
| 1896 | 707,506 | 81,561 | 789,067 | 0·62 |
| 1897 | 861,737 | 76,494 | 938,231 | 0·72 |
| 1898 | 771,214 | 76,918 | 848,132 | 0·64 |
| 1899 | 831,765 | 75,493 | 907,258 | 0·67 |
| 1900 | 816,908 | 87,026 | 903,934 | 0·67 |

The amount expended upon wines, spirits, and fermented liquors consumed in the state during the year 1900 was about £4,769,000. Of this sum, £2,813,100 was the cost of liquors to the retailer, of which £1,118,700 represents duty, excise, and license fees, and £1,694,400 the invoice price of the goods. The cost of working the trade and the

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profits of the merchants and retailers, therefore, came to £1,955,900. The expenditure on liquors per inhabitant amounted to £3 10s. 5d. during the year, which, though undoubtedly a large sum, amounting, as it does, to about 7 per cent. of the average income, is nevertheless proportionately smaller than the outlay in several European countries. Although the average per head of population was higher during the last five years than in any year since 1892, yet there has been a satisfactory decrease in the expenditure on intoxicants since 1891, not only in the amount per inhabitant but even in the total sum. This will be seen from the following table :—

| Year. | Expenditure on Intoxicants. | |
|---|---|---|
| | Total. | Per Inhabitant. |
| | £ | £ s. d. |
| 1891 | 4,905,400 | 4 5 11 |
| 1892 | 4,713,900 | 4 0 0 |
| 1893 | 4,011,800 | 3 6 6 |
| 1894 | 3,930,800 | 3 3 10 |
| 1895 | 3,851,300 | 3 1 3 |
| 1896 | 4,063,000 | 3 3 7 |
| 1897 | 4,086,400 | 3 2 11 |
| 1898 | 4,243,500 | 3 4 2 |
| 1899 | 4,402,250 | 3 5 5 |
| 1900 | 4,769,900 | 3 10 5 |

The rate per inhabitant and the proportion of income devoted to liquors in various countries are given below. The figures should, however, be taken with this qualification, that in several of the countries enumerated liquors are consumed principally with meals in place of tea or coffee, so largely partaken of in English-speaking countries :—

| Countries. | Amount per Inhabitant. | Proportion of Income. |
|---|---|---|
| | £ s. d. | per cent. |
| United Kingdom | 2 18 0 | 8·2 |
| France | 1 19 0 | 7·7 |
| Germany | 1 14 0 | 9·4 |
| Russia | 1 0 0 | 9·9 |
| Austria | 1 13 0 | 10·5 |
| Italy | 1 5 0 | 10·7 |
| Spain | 1 5 0 | 9·1 |
| Belgium and Holland | 2 0 0 | 8·3 |
| Denmark | 2 10 0 | 11·1 |
| Scandinavia | 1 6 0 | 7·7 |
| United States | 1 10 0 | 4·2 |
| New South Wales | 3 10 5 | 7·9 |

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The following table shows the consumption for all the states and the colony of New Zealand during the year 1900. The largest consumption of spirits per inhabitant is in Western Australia, Queensland being second. Wine is used most freely in South Australia, Victoria, and Western Australia; and beer in Western Australia, Victoria, and Queensland. The average consumption of alcohol in the Commonwealth amounts to 2·64 gallons of proof spirit per inhabitant, ranging from 5·19 gallons in Western Australia to 1·72 gallons in Tasmania. In Western Australia, of course, there is an unusually large proportion of adult males :—

| State. | Spirits. | | Wine. | | Beer, &c. | | Equivalent in Alcohol (proof) per Inhabitant. |
|---|---|---|---|---|---|---|---|
| | Total. | Per Inhabitant. | Total. | Per Inhabitant. | Total. | Per Inhabitant. | |
| | galls. | galls. | galls. | galls. | galls. | galls. | galls. |
| New South Wales | 1,103,969 | 0·82 | 903,934 | 0·67 | 14,893,700 | 11·00 | 2·44 |
| Victoria | 932,834 | 0·78 | 1,543,640 | 1·29 | 14,859,766 | 12·45 | 2·95 |
| Queensland | 528,587 | 1·08 | 184,475 | 0·38 | 5,805,461 | 11·84 | 2·72 |
| South Australia | 154,955 | 0·43 | 481,753 | 1·34 | 3,298,004 | 9·15 | 2·02 |
| Western Australia | 273,598 | 1·56 | 169,038 | 0·96 | 4,544,367 | 25·88 | 5·19 |
| Tasmania | 88,816 | 0·51 | 19,074 | 0·11 | 1,564,126 | 9·06 | 1·72 |
| Commonwealth | 3,082,759 | 0·82 | 3,301,914 | 0·88 | 44,965,424 | 12·00 | 2·64 |
| New Zealand | 549,932 | 0·72 | 116,188 | 0·15 | 6,986,900 | 9·15 | 1·96 |

Taking the Commonwealth of Australia as a whole, it compares very favourably with most of the European countries in the quantity of intoxicants annually consumed by each inhabitant, as the following statement shows. The figures are reduced to gallons of proof spirit from data given in Mulhall's *Dictionary of Statistics*, and would look even more favourable to the Commonwealth were the fact of the large preponderance of males over females in these states made a feature of the comparison :—

| Country. | Consumption. | Country. | Consumption. |
|---|---|---|---|
| | gallons. | | gallons. |
| United Kingdom | 3·57 | Holland | 4·00 |
| France | 5·10 | Belgium | 4·00 |
| Germany | 3·08 | Denmark | 5·00 |
| Russia | 2·02 | Scandinavia | 4·36 |
| Austria | 2·80 | United States | 2·65 |
| Italy | 3·40 | Commonwealth of Australia | 2·64 |
| Spain | 2·85 | | |
| Portugal | 3·00 | | |

It is popularly supposed that Australian wines and beers are not heavily charged with spirit as compared with the imported articles.

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This belief is erroneous. Several descriptions of Australian wines have a natural strength of 30 per cent. of proof spirit, while from analyses recently made it would appear that the strength of these wines offered for sale varies from 24 to 37 per cent. of spirit. On the same authority it was stated that imported beers ranged from 13·88 to 15·42 per cent. in the case of English, and from 9·58 to 11·76 per cent. of proof spirit in Lager; while the local manufacture varied from 6·1 to 13·8, the average being 9·97 per cent.

## Annual Expenditure.

The latest complete estimate of the annual expenditure of the people of New South Wales is given below; it refers to the year 1900. The figures given embrace household and living expenses, apart from expenditure incidental to earning the incomes:—

| | £ |
|---|---|
| Food and non-alcoholic beverages | 18,347,000 |
| Fermented and spirituous liquors | 4,769,000 |
| Tobacco | 1,259,000 |
| Clothing and drapery | 8,231,000 |
| Furniture | 680,000 |
| Rent or value of buildings used as dwellings | 5,511,000 |
| Locomotion | 2,053,000 |
| Fuel and light | 1,760,000 |
| Personal attendance, service, and lodging | 2,371,000 |
| Medical attendance, medicine, and nursing | 1,512,000 |
| Religion, charities, education (not including State expenditure) | 1,213,000 |
| Art and amusement | 1,290,000 |
| Books, newspapers, etc. | 765,000 |
| Postage and telegrams, not incidental to earning the incomes | 398,000 |
| Direct taxes not falling on trade | 519,000 |
| Household expenses not included elsewhere | 1,866,000 |
| Miscellaneous expenses | 1,275,000 |
| Total | £53,819,000 |

The expenditure for the year given amounted to £39 14s. 9d. per head, or at the rate of 2s. 2d. per day. The daily expenditure may be thus distributed:—

| Division of Expenditure. | Per day. | Proportion of Expenditure. |
|---|---|---|
| | d. | per cent. |
| Food | 8·9 | 34·1 |
| Clothing and drapery | 4·0 | 15·3 |
| Rent | 2·7 | 10·3 |
| Direct taxes | 0·2 | 0·9 |
| Sundries (including intoxicants) | 10·3 | 39·4 |
| Total | 26·1 | 100·0 |

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According to Mulhall, the expenditure per inhabitant in the leading countries of Europe and in the United States and Canada is as follows:—

| Country. | Expenditure per head. | | | Country. | Expenditure per head. | | |
|---|---|---|---|---|---|---|---|
| | £ | s. | d. | | £ | s. | d. |
| United Kingdom.. ... | 29 | 14 | 9 | Norway ..... | 19 | 0 | 0 |
| France ..... ..... | 23 | 19 | 4 | Denmark ..... | 28 | 11 | 5 |
| Germany ..... | 20 | 3 | 4 | Holland ..... | 20 | 17 | 4 |
| Russia ..... | 10 | 1 | 11 | Belgium ..... | 25 | 8 | 2 |
| Austria ..... | 14 | 4 | 9 | Switzerland ..... | 18 | 0 | 0 |
| Italy ..... | 11 | 11 | 0 | United States ..... | 32 | 16 | 2 |
| Spain..... | 15 | 12 | 6 | Canada ..... | 23 | 2 | 2 |
| Portugal ..... | 11 | 5 | 6 | | | | |
| Sweden..... | 20 | 8 | 4 | New South Wales... | 39 | 14 | 9 |

The table just given affords but a partial view of the question of the cost of living; for if the total earnings of the countries above enumerated be considered as an element of comparison, it will be found that few countries approach New South Wales in the small proportion of income absorbed in providing food for the people. The following table, given on the same authority as the preceding, shows that while the actual cost of food and beverage is £17 1s. 4d. in this state, as against £14 4s. 9d. in Great Britain, the earnings required to pay for this food are not larger proportionately than in the countries which appear most favourably in the table. The number of working days in the year is assumed to be 300, allowing for thirteen days' sickness and fifty-two Sundays:—

| Country. | Average annual cost of food and beverage. | | | Ratio of cost of food to earnings. | Days' earnings equal to annual cost of food. |
|---|---|---|---|---|---|
| | £ | s. | d. | per cent. | days. |
| United Kingdom ... | 14 | 4 | 9 | 42·2 | 127 |
| France ..... | 12 | 4 | 5 | 44·0 | 132 |
| Germany ..... | 10 | 18 | 5 | 49·1 | 147 |
| Russia ..... | 5 | 19 | 7 | 52·0 | 156 |
| Austria ..... | 7 | 17 | 4 | 50·8 | 152 |
| Italy ..... | 6 | 4 | 10 | 51·2 | 154 |
| Spain ..... | 8 | 9 | 0 | 51·2 | 154 |
| Portugal ..... | 7 | 3 | 0 | 59·1 | 177 |
| Sweden ..... | 9 | 18 | 11 | 45·2 | 136 |
| Norway ..... | 9 | 15 | 0 | 47·6 | 143 |
| Denmark.. ..... | 11 | 14 | 0 | 36·0 | 108 |
| Holland ..... | 10 | 8 | 0 | 46·0 | 138 |
| Belgium ..... | 12 | 3 | 1 | 43·4 | 130 |
| Switzerland ..... | 8 | 11 | 7 | 45·2 | 136 |
| United States..... | 9 | 17 | 7 | 25·2 | 76 |
| Canada ..... | 8 | 9 | 0 | 32·5 | 98 |
| New South Wales... | 17 | 1 | 4 | 38·0 | 112 |

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## Prices of Commodities.

The area of New South Wales is so extensive, and the population, except on the sea-board, so scattered, that the determination with any exactness of the average prices of the various commodities consumed is a matter of no little difficulty. No attempt has therefore been made to ascertain the average for the state, and in the following pages the prices refer to the Metropolitan markets alone. For the earlier years the authority of contemporary newspapers has been followed where the official records were obscure or silent, but since 1836 these records have been available, and have for the most part been adopted. The following table exhibits the average prices of eight commodities during each year since 1820 :—

| Year. | Bread per 2-lb. loaf. | Fresh Beef per lb. | Butter per lb. | Cheese per lb. | Sugar per lb. | Tea per lb. | Potatoes per cwt. | Maize per bushel. |
|---|---|---|---|---|---|---|---|---|
| | d. | d. | s. d. | s. d. | d. | s. d. | s. d. | s. d. |
| 1820 | 5 | 5½ | 2 9 | 1 1 | ..... | ..... | 7 3 | 5 6 |
| 1821 | 6 | 5½ | 2 8 | 1 2 | ..... | ..... | 7 3 | 5 0 |
| 1822 | 5 | 5½ | 2 6 | 1 3 | ..... | ..... | 5 9 | 4 9 |
| 1823 | 3½ | 5½ | 2 2 | 1 2 | ..... | ..... | 6 1 | 2 6 |
| 1824 | 5 | 5½ | 3 0 | 1 4 | ..... | ..... | 6 10 | 4 10 |
| 1825 | 4½ | 6 | 2 2 | 1 5 | ..... | ..... | 8 4 | 5 6 |
| 1826 | 5½ | 5½ | 2 4 | 0 10 | ..... | ..... | 9 0 | 4 0 |
| 1827 | 4½ | 6½ | 2 3 | 1 1 | ..... | ..... | 8 0 | 5 0 |
| 1828 | 6 | 5 | 2 6 | 1 4 | ..... | ..... | 18 6 | 9 0 |
| 1829 | 7 | 6 | 1 10 | 1 1 | ..... | ..... | 12 6 | 7 9 |
| 1830 | 4½ | 3½ | 1 0 | 0 11 | 3½ | 2 6 | 8 0 | 3 10 |
| 1831 | 4 | 4½ | 1 8 | 0 6 | 3½ | 2 6 | 5 0 | 3 8 |
| 1832 | 5 | 5 | 2 3 | 0 7 | 3½ | 2 6 | 5 0 | 4 7 |
| 1833 | 4 | 3½ | 1 5 | 0 6 | 3½ | 2 6 | 10 0 | 2 11 |
| 1834 | 5 | 4 | 1 6 | 0 6 | 3½ | 2 6 | 14 0 | 4 4 |
| 1835 | 4 | 3½ | 1 10 | 0 5 | 3½ | 2 6 | 10 0 | 4 6 |
| 1836 | 5½ | 3 | 1 9 | 0 8½ | 3½ | 2 6 | 7 0 | 6 9 |
| 1837 | 3 | 4½ | 1 9 | 0 7½ | 3½ | 2 6 | 10 0 | 4 2 |
| 1838 | 5 | 4½ | 1 6 | 0 8½ | 2½ | 2 6 | 10 6 | 3 7 |
| 1839 | 11½ | 3 | 2 6 | 1 1 | 3½ | 2 6 | 11 0 | 9 0 |
| 1840 | 7½ | 4½ | 2 0 | 1 0 | 3½ | 2 6 | 9 6 | 5 3 |
| 1841 | 4½ | 4½ | 2 6 | 0 10 | 3½ | 2 6 | 12 0 | 2 10 |
| 1842 | 5 | 3½ | 2 6 | 1 1½ | 3½ | 2 6 | 14 6 | 4 9 |
| 1843 | 3½ | 2½ | 1 9 | 0 9 | 3 | 2 6 | 10 0 | 2 9 |
| 1844 | 2½ | 2 | 1 5 | 0 4½ | 2½ | 1 5 | 4 6 | 1 5 |
| 1845 | 2½ | 2½ | 1 6 | 0 6 | 3 | 1 6 | 4 6 | 2 11 |
| 1846 | 3½ | 2½ | 1 8 | 0 6 | 4 | 2 3 | 6 2 | 4 1 |
| 1847 | 3½ | 2 | 1 2 | 0 7 | 4 | 2 4 | 5 6 | 2 1 |
| 1848 | 3½ | 2 | 1 1 | 0 8 | 3½ | 2 0 | 6 0 | 1 8 |
| 1849 | 2½ | 1½ | 1 2 | 0 6½ | 3½ | 1 9 | 6 2 | 3 9 |

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| Year. | Bread per 2-lb. loaf. | Fresh Beef per lb. | Butter per lb. | Cheese per lb. | Sugar per lb. | Tea per lb. | Potatoes per cwt. | Maize per bushel. |
|---|---|---|---|---|---|---|---|---|
| | d. | d. | s. d. | s. d. | d. | s. d. | s. d. | s. d. |
| 1850 | 4½ | 1⅜ | 1 3 | 0 7 | 3½ | 1 10 | 7 0 | 4 1 |
| 1851 | 5 | 2⅜ | 1 3 | 0 7 | 3½ | 1 4 | 6 0 | 3 7 |
| 1852 | 4½ | 3 | 1 3 | 0 7 | 3½ | 1 4 | 6 0 | 3 11 |
| 1853 | 6½ | 3½ | 1 5½ | 0 7½ | 3½ | 1 4 | 13 0 | 9 3 |
| 1854 | 7½ | 4½ | 2 3 | 0 9 | 5 | 2 6 | 18 6 | 10 0 |
| 1855 | 9 | 6 | 2 4 | 1 3 | 7 | 2 5 | 21 4 | 8 7 |
| 1856 | 7½ | 3½ | 1 11 | 1 2 | 5½ | 2 2⅓ | 10 0 | 3 8 |
| 1857 | 5 | 3½ | 2 0 | 1 0 | 7½ | 2 6 | 14 6 | 8 2 |
| 1858 | 6 | 4 | 2 0 | 1 0 | 7 | 2 6 | 15 6 | 6 5 |
| 1859 | 6 | 4 | 1 10 | 1 0 | 5 | 2 6 | 8 0 | 3 5 |
| 1860 | 6½ | 4 | 1 6 | 1 10 | 5½ | 2 3 | 7 6 | 2 10 |
| 1861 | 6½ | 3 | 1 8 | 0 9 | 5½ | 2 4 | 7 3 | 5 1 |
| 1862 | 4½ | 4½ | 2 3 | 0 9 | 4½ | 2 0 | 8 0 | 5 0 |
| 1863 | 4 | 4¼ | 1 6 | 0 10 | 4½ | 2 0 | 7 0 | 3 10 |
| 1864 | 5½ | 4 | 1 6 | 0 8 | 4½ | 2 0 | 5 0 | 3 11 |
| 1865 | 7½ | 3 | 1 9 | 0 9 | 4½ | 2 0 | 8 0 | 3 7 |
| 1866 | 6½ | 3 | 1 3 | 1 0 | 4 | 2 6 | 6 0 | 4 1 |
| 1867 | 3½ | 2½ | 1 6 | 0 7½ | 4 | 2 0 | 7 0 | 2 5 |
| 1868 | 4 | 3½ | 1 3 | 0 9 | 4 | 2 0 | 9 0 | 2 11 |
| 1869 | 3½ | 2 | 1 6 | 0 6 | 4 | 2 0 | 4 0 | 3 8 |
| 1870 | 3½ | 3½ | 1 3 | 0 6 | 4 | 2 0 | 5 0 | 3 4 |
| 1871 | 3½ | 2½ | 1 3 | 0 7½ | 4 | 2 3 | 4 0 | 3 0 |
| 1872 | 3½ | 2½ | 1 0 | 0 9 | 4 | 1 9 | 5 0 | 2 2 |
| 1873 | 4 | 2½ | 1 3 | 0 5 | 4 | 1 9 | 3 6 | 3 1 |
| 1874 | 3½ | 4 | 1 7 | 0 6 | 4 | 1 9 | 4 9 | 4 6 |
| 1875 | 3 | 3½ | 1 3 | 0 9 | 4½ | 1 9 | 5 6 | 4 3 |
| 1876 | 3½ | 5½ | 1 3 | 0 7 | 4 | 1 9 | 4 9 | 3 1 |
| 1877 | 4 | 4½ | 1 6 | 0 6 | 4 | 2 0 | 4 9 | 3 4 |
| 1878 | 4 | 4 | 1 3 | 0 6 | 4 | 1 9 | 5 10 | 4 0 |
| 1879 | 3½ | 4 | 0 10½ | 0 6 | 3½ | 1 6 | 6 0 | 3 1 |
| 1880 | 3 | 3½ | 0 10 | 0 7 | 4 | 2 0 | 4 3 | 2 6 |
| 1881 | 3½ | 3½ | 0 10½ | 0 6½ | 3½ | 2 0 | 4 0 | 3 7 |
| 1882 | 4 | 4½ | 1 3 | 0 8 | 4 | 2 0 | 5 6 | 5 4 |
| 1883 | 3½ | 4 | 1 4 | 0 10 | 4 | 2 0 | 6 0 | 4 0 |
| 1884 | 3 | 4½ | 1 3 | 0 9 | 3½ | 1 6 | 6 6 | 5 0 |
| 1885 | 3 | 4½ | 1 9 | 1 0 | 3 | 1 9 | 5 6 | 3 11 |
| 1886 | 3½ | 4½ | 1 9 | 1 1 | 3½ | 1 9 | 6 3 | 3 9 |
| 1887 | 3½ | 4 | 1 4 | 0 10½ | 3½ | 1 9 | 5 0 | 3 11 |
| 1888 | 3 | 4 | 1 7 | 0 8½ | 3½ | 1 6 | 6 0 | 3 4 |
| 1889 | 3½ | 3 | 1 4 | 0 9 | 3¼ | 1 6 | 9 0 | 3 7 |
| 1890 | 3½ | 4 | 1 0 | 0 8 | 3½ | 1 6 | 6 0 | 3 10 |
| 1891 | 3½ | 4 | 1 1 | 0 9 | 3¼ | 2 0 | 5 0 | 2 11 |
| 1892 | 3½ | 4 | 1 3 | 0 8 | 3 | 1 6 | 5 6 | 3 4 |
| 1893 | 3½ | 4 | 1 1½ | 0 8 | 2½ | 1 6 | 6 4 | 4 0 |
| 1894 | 2½ | 3 | 1 0 | 0 8 | 2½ | 1 6 | 4 6 | 2 6 |
| 1895 | 2¾ | 3 | 1 0 | 0 8 | 2½ | 1 6 | 4 3 | 2 9 |
| 1896 | 3 | 3 | 1 0 | 0 8 | 2½ | 1 6 | 5 6 | 2 7 |
| 1897 | 3 | 2½ | 1 0 | 0 8 | 2½ | 1 6 | 5 3 | 2 3 |
| 1898 | 2½ | 2½ | 1 0 | 0 8 | 2 | 1 6 | 9 0 | 2 9 |
| 1899 | 3 | 3½ | 1 0 | 0 8 | 2¼ | 1 6 | 9 4 | 3 4 |
| 1900 | 3 | 3½ | 0 11 | 0 7½ | 2¼ | 1 4 | 6 9 | 3 0 |

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The most noteworthy feature of the history of prices in the state—the great range of some of the commodities during the year—is not disclosed by the foregoing table. This variation is most noticeable during the early years, and amongst articles of local production, and was the result of the almost complete isolation of the state from the markets of the world. Prior to the discovery of gold, communication by letter with the outside world was at best uncertain, and as late as 1878 the regular mails were made up but once a month. The establishment of telegraphic communication, amongst other results, has had a marked effect on prices, so that except in rare instances, and for goods produced in excess of the demand, the production of Australia no longer determines the prices of goods required for the local markets. Exception must, of course, be made for perishable produce, which is still liable to a great range in price during the course of a single year, as will be shown by some examples hereafter given.

Potatoes have varied in price from year to year. The lowest average for a whole twelvemonth was 3s. 6d. per cwt. in 1873, and the highest was 21s. 5d. in 1855, shortly after the discovery of gold; and it may not be without interest to note that from 1853 to 1855 the price of potatoes was extraordinarily high. Commencing with the year first named, the averages were 13s., 18s. 6d., 21s. 4d., 10s., 14s. 6d., and 15s. 6d. per cwt. With regard to the variation in a single year, the following examples may be cited:—In 1820, from 4s. 6d. to 10s. per cwt.; in 1825, from 4s. to 12s.; in 1829, from 9s. to 26s.; in 1834, from 9s. to 19s.; in 1839, from 7s. to 25s.; in 1854, from 11s. to 24s.; in 1856, from 3s. to 11s.; and in 1888, from 2s. to 24s.

The price of maize has not been subject to very great fluctuation, since, being little used except for horse-feed, this grain is capable of being replaced by other products; nevertheless the prices have ranged from 1s. 5d. in 1844 to 10s. in 1854.

In the list given on page 777 are included quotations for bread at per 2-lb. loaf. In most years the price varied somewhat regularly with that of wheat. There are, however, exceptions to this rule, chiefly in the years during which wheat brought an unusually high figure, when the price of bread was generally less than might have been expected. The lowest price at which bread has been retailed was 2½d. in 1849, and the highest was 14d. the 2-lb. loaf, which figure was paid for a short time in 1839.

In addition to the eight commodities which are given on page 777, the following list of the average retail prices of articles largely used may not be without interest. The information begins with 1836, beyond which year it is difficult to determine the exact average.

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| Year. | Bacon per lb. | Eggs per doz. | Rice per lb. | Oat-meal per lb. | Coffee per lb. | Salt per lb. | Beer (Col.) per gal. | Soap per lb. | Starch per lb. | Tobacco per lb. (Col.) | Tobacco per lb. (imp.) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | s. d. | s. d. | d. | d. | s. d. | d. | s. d. | d. | s. d. | s. d. | s. d. |
| 1836 | ... | 2 2 | 9 | ... | ... | ... | ... | 4½ | ... | ... | 3 3 |
| 1837 | ... | 2 6 | ... | ... | 1 6 | 1 | 1 0 | ... | ... | ... | 4 0 |
| 1838 | ... | 4 0 | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 1839 | ... | 3 0 | ... | ... | 1 6 | ... | ... | 4½ | ... | ... | 3 3 |
| 1840 | 0 10 | 2 9 | ... | ... | 1 4 | ... | ... | 4½ | ... | ... | 3 3 |
| 1841 | 0 11 | 2 3 | ... | ... | 1 4 | ... | ... | 4½ | ... | ... | 3 3 |
| 1842 | 0 10½ | 1 11 | 2 | ... | 1 4 | 1 | 1 9 | 4½ | ... | ... | 3 6 |
| 1843 | 0 10 | 2 0 | 1½ | ... | 0 10 | 0½ | 2 3 | ... | ... | 1 4 | 3 6 |
| 1844 | 0 5½ | 0 11 | 1¾ | ... | 0 8½ | 1¼ | 1 3 | 3¾ | ... | 1 6 | 3 6 |
| 1845 | 0 6½ | 1 1 | 3 | ... | 0 7½ | 1½ | 1 1 | 3½ | ... | 1 6 | 4 6 |
| 1846 | 0 9½ | 1 3 | 1½ | ... | 0 10 | 1½ | 2 0 | 5 | ... | 1 9 | 4 6 |
| 1847 | 0 6½ | 1 1 | 3¾ | 6 | 1 1 | 1½ | 3 4 | 5 | 1 0 | 1 9 | 4 4 |
| 1848 | 0 9 | 1 3 | 3½ | 6 | 1 1 | 1½ | 3 3 | 5 | 1 0 | 1 9 | 4 4 |
| 1849 | 0 8½ | 1 1 | 3¾ | 5¾ | 1 0 | 1½ | 2 8 | 5½ | 1 1 | 2 0 | 4 7 |
| 1850 | 0 8½ | 1 4 | 4 | 6 | 1 2 | 1¾ | 2 9 | 5½ | 1 0 | 2 7 | 4 10 |
| 1851 | 0 9½ | 1 8 | 4 | 6 | 1 3 | 1½ | 2 6 | 5¼ | 1 0 | 3 8 | 7 9 |
| 1852 | 1 1 | 1 6 | 4 | 6 | 1 3 | 1½ | 2 6 | 6 | 1 0 | 4 0 | 6 0 |
| 1853 | 1 2½ | 2 3 | 4¼ | 6 | 1 3 | 1½ | 2 4½ | 6 | 1 0 | 4 0 | 7 6 |
| 1854 | 1 4½ | 2 9 | 5 | 7½ | 1 6 | 2½ | 3 6 | 8 | 1 6 | 4 0 | 5 6 |
| 1855 | 0 11½ | 2 8 | 6 | 9 | 1 8 | 4 | 4 7 | 8 | 1 6 | 3 0 | 5 0 |
| 1856 | 0 10 | 2 2 | 5¼ | 7 | 1 7½ | 3 | 3 6 | 7¼ | 1 1¼ | 2 6½ | 5 3 |
| 1857 | 0 9½ | 1 11 | 5 | 7 | 1 8 | 2¾ | 4 0 | 7 | 1 0 | 2 7 | 5 0 |
| 1858 | 0 7½ | 2 3 | 6 | 7 | 1 8 | 4½ | 4 3 | 7 | 1 5 | 2 6 | 5 0 |
| 1859 | 0 8½ | 1 10 | 4¼ | 7 | 1 8 | 2½ | 4 0 | 6½ | 1 0 | 2 6 | 5 0 |
| 1860 | 1 0 | 1 3 | 5 | 6 | 1 6 | 2½ | 3 6 | 7 | 1 0 | 2 3 | 5 0 |
| 1861 | 0 10 | 1 6 | 4 | 6 | 1 6 | 2½ | 3 6 | 6 | 0 10½ | 2 0 | 5 6 |
| 1862 | 0 10 | 1 5 | 3 | 5 | 1 5 | 1½ | 2 0 | 4½ | 0 8 | 4 6 | 6 0 |
| 1863 | 0 10½ | 1 7 | 3 | 4 | 1 4 | 1½ | 1 6 | 4 | 0 7 | 3 0 | 7 6 |
| 1864 | 0 10 | 1 6 | 3 | 4 | 1 4 | 1½ | 2 0 | 4 | 0 8 | 1 6 | 5 6 |
| 1865 | 0 9¾ | 1 6 | 3 | 4 | 1 4 | 1½ | 2 0 | 4 | 0 8 | 2 6 | 5 6 |
| 1866 | 1 0 | 1 6 | 4 | 4 | 1 4 | 1½ | 2 0 | 4½ | 0 7 | 2 6 | 5 0 |
| 1867 | 0 10 | 1 7 | 3½ | 4 | 1 4 | 1 | 1 6 | 4 | 0 7 | 1 9 | 4 6 |
| 1868 | 0 9½ | 1 2 | 4 | 4 | 1 4 | 1½ | 2 0 | 4 | 0 7 | 1 9 | 5 0 |
| 1869 | 0 10 | 1 3 | 3 | 4 | 1 0 | 1 | 1 4 | 4 | 0 8 | 1 0 | 3 6 |
| 1870 | 0 10½ | 1 4 | 3 | 4 | 1 2 | 1 | 1 4 | 4 | 0 7 | 1 3 | 3 6 |
| 1871 | 0 9½ | 1 4 | 2½ | 2½ | 1 0 | 0½ | 2 3 | 3 | 0 4½ | 1 0 | 3 0 |
| 1872 | 0 9 | 1 1 | 3 | 3 | 1 1 | 0¾ | 1 4 | 3 | 0 5 | 1 4 | 3 6 |
| 1873 | 0 9 | 1 4 | 2½ | 2¾ | 1 2 | 0½ | 2 3 | 3 | 0 5 | 2 0 | 3 6 |
| 1874 | 0 8¾ | 1 6 | 3 | 3¾ | 1 4 | 0½ | 2 0 | 2¾ | 0 6 | 1 9 | 3 3 |
| 1875 | 0 9½ | 1 6 | 3 | 3 | 1 2 | 1½ | 3 0 | 3 | 0 5 | 2 0 | 3 9 |
| 1876 | 0 9 | 1 0 | 3 | 3 | 1 2 | 1 | 2 0 | 2¾ | 0 5 | 1 9 | 3 0 |
| 1877 | 0 8½ | 1 6 | 3 | 3¼ | 1 3 | 1 | 2 0 | 2¾ | 0 5 | 2 0 | 3 9 |
| 1878 | 0 9 | 1 3 | 3 | 3 | 1 3 | 0½ | 2 0 | 2 | 0 5 | 1 6 | 3 9 |
| 1879 | 0 8 | 1 7 | 2½ | 2½ | 1 0 | 0½ | 2 0 | 2 | 0 5 | 1 6 | 3 0 |
| 1880 | 0 7½ | 1 4 | 3 | 3 | 1 5 | 0¾ | 2 0 | 3 | 0 5½ | 2 0 | 4 0 |
| 1881 | 0 7½ | 1 0 | 3 | 3 | 1 5 | 0¾ | 2 0 | 3 | 0 5½ | 2 0 | 4 0 |
| 1882 | 1 0 | 2 0 | 3¼ | 4 | 1 5 | 1 | 2 0 | 2½ | 0 6 | 3 0 | 5 0 |
| 1883 | 1 0 | 1 11 | 3 | 4 | 1 9 | 1 | 2 0 | 3 | 0 7 | 3 0 | 6 0 |
| 1884 | 0 11½ | 1 11 | 2½ | 3 | 1 4 | 1 | 2 0 | 3 | 0 6 | 3 0 | 5 0 |
| 1885 | 0 10½ | 1 10 | 3 | 3 | 1 5 | 0¾ | 2 0 | 3 | 0 6½ | 3 0 | 6 0 |
| 1886 | 0 10½ | 1 8 | 3¼ | 2¾ | 1 6 | 1 | 2 0 | 4 | 0 6½ | 4 0 | 5 6 |

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| Year. | Bacon per lb. | Eggs per doz. | Rice per lb. | Oatmeal per lb. | Coffee per lb. | Salt per lb. | Beer (Col.) per gal. | Soap per lb. | Starch per lb. | Tobacco per lb. (Col.) | Tobacco per lb. (Imp.) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | s. d. | s. d. | d. | d. | s. d. | d. | s. d. | d. | s. d. | s. d. | s. d. |
| 1887 | 0 10 | 1 7 | 3 | 2⅜ | 1 6 | 1 | 2 0 | 3½ | 0 6½ | 4 0 | 5 6 |
| 1888 | 0 10½ | 1 7 | 3 | 2½ | 1 6 | 1 | 2 0 | 3½ | 0 6 | 4 0 | 5 6 |
| 1889 | 0 11 | 1 8 | 3 | 3¼ | 1 6 | 1 | 2 0 | 3½ | 0 6 | 4 0 | 5 6 |
| 1890 | 1 0½ | 1 6 | 4 | 3 | 2 0 | 1 | 2 0 | 3½ | 0 5 | 4 0 | 6 0 |
| 1891 | 0 10 | 1 6 | 3 | 2½ | 2 0 | 1 | 2 0 | 3½ | 0 5 | 4 0 | 6 0 |
| 1892 | 0 9 | 1 6 | 3 | 2½ | 1 10 | 0¾ | 2 0 | 3 | 0 4½ | 4 0 | 6 0 |
| 1893 | 0 11 | 1 6 | 3 | 2¼ | 1 10 | 0¾ | 2 0 | 3 | 0 4½ | 4 0 | 6 0 |
| 1894 | 0 7 | 1 3 | 3 | 2¼ | 1 10 | 0¾ | 2 0 | 3 | 0 4½ | 4 0 | 6 0 |
| 1895 | 0 7½ | 1 0 | 2½ | 2 | 1 9 | 0¾ | 2 0 | 2 | 0 4 | 4 0 | 6 0 |
| 1896 | 0 7½ | 1 0 | 2 | 2 | 1 9 | 0½ | 2 0 | 2 | 0 4 | 4 0 | 6 0 |
| 1897 | 0 8 | 1 0 | 2½ | 2½ | 1 9 | 0¾ | 2 0 | 2½ | 0 4 | 4 0 | 6 0 |
| 1898 | 0 8½ | 1 0 | 2 | 2½ | 1 9 | 0¾ | 2 0 | 2½ | 0 4 | 4 0 | 6 0 |
| 1899 | 0 8 | 0 11 | 2 | 2¼ | 1 10 | 1 | 2 0 | 2½ | 0 3¾ | 4 0 | 6 0 |
| 1900 | 0 7½ | 0 11 | 2¼ | 2¼ | 1 6 | 0½ | 2 0 | 3 | 0 3½ | 4 0 | 6 0 |

In the quotation of prices in the foregoing tables the figures given are those charged in the shops throughout the metropolitan district. It is quite possible that produce of all kinds may have been bought at cheaper rates than those stated; but the figures will be found to represent the fair average rates, having regard to the class of goods consumed. It is of importance to take into consideration the quality of the produce consumed, for very considerable changes in the direction of improvement have taken place in this respect. Thus, the ordinary sugar now used, and obtainable for about 2d. per lb., is a good white sugar, whereas some years ago only the commonest quality of moist sugar was found on the tables of the people. A very material improvement has been effected in the quality of flour, a large proportion of the present consumption being roller-made. Salt-butter still forms the bulk of the supply, but it is usually of recent make; while formerly the butter was imported from Great Britain, and was several months old before reaching the dining-table. The candles now used are made of stearine, but the time is not remote when only the common tallow candle was in general use; and so with many other articles of ordinary consumption. The retail prices are those actually paid from day to day, irrespective of the nominal wholesale rates of the commodities in the Sydney markets.

A consideration of retail prices would not be complete without a statement of the price-level in different years. This can be given for foods; but at present the data are hardly sufficient to establish an exact series of price-levels, taking into consideration all the elements of ordinary expenditure. The information in regard to foods is given below, the assumption being made that the quantities entering into consumption were the same formerly as at the present day. This assumption, however, is in some respects erroneous; but there appear to be no other means within reach to effect a just comparison. Sugar, tea, coffee,

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butter, cheese, and potatoes are now more largely used than (say) prior to 1870; but bread, or other forms in which flour is used, and meat, are not consumed so largely. However, when full allowance is made on this score, the following table will still be found to approximate closely to the truth. The price-level is calculated on the prices ruling for beef, mutton, bread, sugar, rice, potatoes, tea, beer, and tobacco :—

| Period. | Price-level of principal Articles of Consumption. | |
|---|---|---|
| | 1821-37 Prices =1,000. | 1899-1900 Prices =1,000. |
| 1821 to 1837 | 1,000 | 1,384 |
| 1838 ,, 1842 | 1,032 | 1,429 |
| 1843 ,, 1852 | 712 | 986 |
| 1853 ,, 1858 | 1,301 | 1,801 |
| 1859 ,, 1862 | 1,147 | 1,588 |
| 1863 ,, 1872 | 865 | 1,197 |
| 1873 ,, 1892 | 809 | 1,120 |
| 1893 ,, 1898 | 689 | 954 |
| 1899 ,, 1900 | 722 | 1,000 |

Little practical good can be gained by comparing the prices of one period with those of another, unless regard is also paid to the earnings of labour, and as means of comparison are afforded in the chapter of this work dealing with wages, it will be unnecessary to pursue the subject further in this place.

## House Rents.

The rents paid for dwellings form a large deduction from the earnings of the manual labour class in any community. Inquiries have been set on foot in order to establish, as far as possible, the relations between wages and rents; but these inquiries have not yet advanced sufficiently to enable an opinion to be expressed in other than general terms. In the city of Sydney dwellings occupied by the labouring classes yield rents as follow :—Three rooms, from 7s. to 9s. per week, or at the rate of 2s. 4d. to 3s. per room; four rooms, from 10s. per week, or 2s. 6d. per room; and five rooms, 12s. per week, or 2s. 5d. per room. Dwellings of more than five rooms are not often occupied by labouring-class families, unless there are grown-up sons and daughters who contribute to the family earnings. In the suburbs of Sydney houses of the kind referred to bring somewhat lower rents, the ratio varying from 2s. to 2s. 6d. per room; while in the provincial towns, except in rare cases, rents are still lower.

Speaking generally, the deduction from a labourer's income for rent amounts to 25 per cent., which, from whatever point it is viewed, must be regarded as excessive. Two circumstances have conjoined to make the rents in the metropolis high—perhaps higher when all things are

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considered than obtains in any of the other metropolitan cities of Australasia—the price of land, and the rate of interest expected by property holders. As regards the former, there can hardly be any question that land in and about Sydney was maintained at a fictitious value for many years, and that prices have now practically subsided to their true level without prospect of any further serious decline. The interest expected by property holders has been, until recently, from 7 to 10 per cent., free of outgoings. Since 1891 a decided fall has taken place, and a much lower return from house property is now readily accepted. It may be stated in general terms that rents in Sydney and suburbs have fallen by as much as 30 per cent. during the last seven years.

## WHOLESALE PRICES.

The average wholesale prices of the principal kinds of milling produce, feed grains, root crops, and fodder, for each month of the year 1900, together with the mean prices for the year, are given in the following statements. The average for the whole year is given irrespective of the quantity sold in each month. In using the table it would be well if this qualification were borne in mind, as the apparent average obtained by dividing the sum of the prices of each month by twelve may, and in some instances does, differ from the true average obtained by taking into account the total sold at each price. The figures given are those quoted by the middlemen, and not those obtained by the producers, which will be found in the chapter of this book dealing with agricultural production.

| Month, 1900. | Wheat. | | Flour—Roller. New South Wales. | Bran. | Pollard. |
|---|---|---|---|---|---|
| | Australian. | Chick. | | | |
| | Per bushel. | Per bushel. | Per ton. | Per bushel. | Per bushel. |
| | s. d. | s. d. | £ s. d. | d. | d. |
| January | 2 7½ | 2 4½ | 6 15 0 | 7¾ | 9½ |
| February | 2 8½ | 2 3½ | 6 12 0 | 8 | 9 |
| March | 2 8¾ | 2 3 | 6 7 6 | 7¾ | 8¾ |
| April | 2 8½ | 2 3½ | 6 7 6 | 8¾ | 10 |
| May | 2 8 | 2 3½ | 6 5 9 | 7½ | 9½ |
| June | 2 9 | 2 4 | 6 8 9 | 7¾ | 8½ |
| July | 2 10½ | 2 4½ | 6 12 6 | 7½ | 7¾ |
| August | 2 10 | 2 4¾ | 6 12 6 | 7½ | 7½ |
| September | 2 9 | 2 4½ | 6 7 0 | 7½ | 7½ |
| October | 2 7½ | 2 3½ | 6 5 0 | 7¾ | 7¾ |
| November | 2 7 | 2 3½ | 6 5 0 | 8 | 8 |
| December | 2 6½ | 2 3½ | 6 5 0 | 8½ | 8½ |
| Mean Prices, 1900 | 2 8½ | 2 3¾ | 6 8 7 | 7¾ | 8½ |

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| Month, 1900. | Barley. | | Maize. | Oats. |
|---|---|---|---|---|
| | Cape. | English. | | |
| | Per bushel. | Per bushel. | Per bushel. | Per bushel. |
| | s. d. | s. d. | s. d. | s. d. |
| January | 2 6 | * | 2 10¼ | 2 6½ |
| February | 2 4½ | * | 2 7½ | 2 5½ |
| March | 2 5½ | * | 2 7½ | 2 6½ |
| April | 2 5 | * | 2 6 | 2 5½ |
| May | 2 3 | * | 2 6½ | 2 4 |
| June | 2 3 | * | 2 5½ | 2 1½ |
| July | 2 3 | * | 2 6 | 2 1 |
| August | 2 1 | * | 2 6¾ | 2 2½ |
| September | 2 1 | * | 2 8 | 2 2½ |
| October | 2 1 | * | 2 11 | 2 3½ |
| November | 2 1 | * | 3 0 | 2 1 |
| December | 2 0½ | * | 2 11¼ | 2 1¼ |
| Mean Prices, 1900 | 2 3 | * | 2 8¼ | 2 3½ |

* No quotations.

The following are the quotations given for root crops, hay and chaff, dairy produce, poultry, and bee produce for 1900 :—

| Month, 1900. | Potatoes. | | | | Onions. |
|---|---|---|---|---|---|
| | New South Wales. | Tasmanian. | Victorian. | New Zealand. | |
| | Per ton. | Per ton. | Per ton. | Per ton. | Per ton. |
| | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. |
| January | 2 10 6 | * | 2 11 9 | * | 2 3 9 |
| February | 3 3 6 | 4 6 8 | 2 17 0 | * | 2 16 6 |
| March | * | 3 2 3 | 1 17 6 | * | 3 3 9 |
| April | * | 2 18 9 | * | * | 3 11 3 |
| May | * | 2 7 3 | * | 2 0 0 | 3 10 0 |
| June | * | 2 9 9 | * | * | 3 12 3 |
| July | * | 2 14 3 | * | * | 3 6 6 |
| August | * | 2 15 0 | * | 2 9 3 | 4 19 0 |
| September | * | 3 2 9 | * | 2 9 3 | 8 8 9 |
| October | * | 3 17 9 | * | 2 13 6 | 10 6 3 |
| November | 6 9 3 | 4 8 9 | 4 12 6 | 3 8 6 | 7 10 0 |
| December | 7 2 6 | * | 6 1 0 | 5 0 0 | 4 15 6 |
| Mean Prices, 1900 | 4 16 5 | 3 4 4 | 3 11 11 | 3 0 1 | 4 17 0 |

* No quotations.

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| Month, 1900. | Hay. | Straw. | Straw, derrick-pressed. | Chaff. | | Lucerne. |
|---|---|---|---|---|---|---|
| | | | | Local. | Imported. | |
| | Per ton. | Per ton. | Per ton. | Per ton. | Per ton. | Per ton. |
| | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. |
| January | 2 10 6 | 2 5 0 | 2 3 0 | 3 3 0 | 3 6 0 | 2 11 3 |
| February | 2 13 3 | 1 18 0 | 1 18 9 | 2 17 0 | 3 3 9 | 2 15 0 |
| March | 3 0 9 | 1 14 3 | 1 18 3 | 3 0 9 | 3 7 0 | 2 18 9 |
| April | 3 1 3 | 2 2 0 | 2 9 6 | 3 1 9 | 3 9 3 | 3 1 9 |
| May | 2 6 9 | 2 3 0 | 2 4 6 | 2 19 3 | 3 8 3 | 2 18 9 |
| June | 2 18 0 | 1 19 3 | 2 3 0 | 2 19 3 | 3 7 6 | 2 14 6 |
| July | 2 11 9 | 1 17 0 | 2 2 6 | 2 14 6 | 3 2 6 | 2 10 6 |
| August | 2 7 0 | 1 13 3 | 1 16 3 | 2 12 6 | 3 0 6 | 2 10 9 |
| September | 2 13 3 | 1 8 0 | 1 15 0 | 2 18 9 | 3 10 6 | 2 9 3 |
| October | 2 18 3 | 1 12 6 | 1 17 3 | 2 14 3 | 3 10 0 | 2 3 9 |
| November | 2 16 3 | 1 15 6 | 2 0 0 | 2 19 3 | 3 9 0 | 2 9 6 |
| December | 3 5 6 | 2 1 9 | 2 5 9 | 2 13 0 | 3 4 6 | 2 1 9 |
| Mean Prices, 1900 | 2 15 3 | 1 17 6 | 2 1 2 | 2 17 9 | 3 6 7 | 2 12 2 |

| Month, 1900. | Butter. | | Cheese. | | Eggs. | | Milk. |
|---|---|---|---|---|---|---|---|
| | Creamery. | Factory. | Loaf. | Large. | North Coast. | South Coast. | |
| | Per lb. | Per lb. | Per lb. | Per lb. | Per doz. | Per doz. | Per gal. |
| | d. | d. | d. | d. | s. d. | s. d. | s. d. |
| January | 9 | 8½ | 4½ | 4½ | 0 8½ | 0 9½ | 1 0 |
| February | 8½ | 7⅝ | 5¼ | 4⅝ | 0 10½ | 0 11⅝ | 1 0 |
| March | 8⅝ | 8 | 5⅝ | 5¼ | 1 0 | 1 2 | 0 9 |
| April | 9⅝ | 8½ | 6 | 5¼ | 1 3½ | 1 5 | 0 9 |
| May | 10 | 9¼ | 6 | 5½ | 1 3½ | 1 5¼ | 0 9 |
| June | 11 | 10½ | 6 | 5½ | 1 3½ | 1 5 | 0 9 |
| July | 11½ | 11 | 5⅞ | 5⅝ | 1 1⅝ | 1 2⅝ | 1 0 |
| August | 10½ | 10 | 5½ | 5 | 0 8 | 0 8¼ | 1 0 |
| September | 9½ | 9 | 5¼ | 4⅝ | 0 6⅜ | 0 7 | 1 0 |
| October | 9 | 8½ | 5¼ | 4⅝ | 0 6¼ | 0 6⅝ | 1 0 |
| November | 9 | 8½ | 5 | 4¼ | 0 8 | 0 8⅜ | 1 0 |
| December | 9 | 8½ | 4½ | 4⅛ | 0 8¼ | 0 9¼ | 1 0 |
| Mean Prices, 1900 | 9½ | 9 | 5½ | 5 | 0 10⅝ | 0 11⅝ | 0 11 |



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| Month, 1900. | Bacon. | Ham, N. S. Wales. | Lard, Bladder. | Porkers. | Baconers. |
|---|---|---|---|---|---|
| | Per lb. | Per lb. | Per lb. | Each. | Each. |
| | d. | d. | d. | s. d. | s. d. |
| January | 6 | 7¾ | 4¾ | 24 6 | 38 6 |
| February | 6 | 7¾ | 4¾ | 23 6 | 35 6 |
| March | 6 | 7¾ | 4½ | 25 0 | 37 0 |
| April | 6 | 7¾ | 4½ | 23 0 | 39 0 |
| May | 6 | 7¾ | 4½ | 26 0 | 38 6 |
| June | 6 | 7¾ | 4½ | 25 0 | 40 0 |
| July | 5½ | 7¾ | 4½ | 24 6 | 41 6 |
| August | 5¼ | 7¾ | 4½ | 26 0 | 43 0 |
| September | 5⅞ | 7½ | 4½ | 27 0 | 46 0 |
| October | 6⅛ | 7½ | 4½ | 25 6 | 47 6 |
| November | 6⅛ | 8¼ | 4¾ | 26 0 | 44 0 |
| December | 6¾ | 8¼ | 4¾ | 27 6 | 45 0 |
| Mean Prices, 1900 | 6 | 7¾ | 4½ | 25 4 | 41 4 |

| Month, 1900. | Poultry. | | | | Bee Produce. | |
|---|---|---|---|---|---|---|
| | Fowls. | Ducks. | Geese. | Turkeys (Cocks). | Honey. | Wax. |
| | Per pair. | Per pair. | Per pair. | Per pair. | Per lb. | Per lb. |
| | s. d. | s. d. | s. d. | s. d. | d. | d. |
| January | 2 9¾ | 2 7½ | 4 3¾ | 13 3 | 2¼ | 12 |
| February | 2 4 | 2 1½ | 3 9 | 11 9 | 2 | 12 |
| March | 2 6 | 2 4¾ | 3 6 | 9 0 | 2 | 12 |
| April | 2 6 | 2 6 | 4 3 | 9 1½ | 2 | 12 |
| May | 2 6¾ | 2 6 | 5 1½ | 8 6 | 2⅜ | 12½ |
| June | 2 7½ | 2 6½ | 4 7 | 10 2 | 2¼ | 12½ |
| July | 2 7½ | 3 0 | 5 4½ | 11 3 | 2⅜ | 12½ |
| August | 2 11 | 3 9 | 5 6 | 11 0 | 2⅜ | 12½ |
| September | 3 4¼ | 3 10½ | 6 10¾ | 11 0 | 2¼ | 12½ |
| October | 3 3 | 3 8¼ | 7 3½ | 11 3 | 2¼ | 12½ |
| November | 3 3½ | 3 6½ | 7 6 | 12 5 | 2¼ | 12½ |
| December | 3 1¼ | 3 10½ | 7 3 | 13 0 | 2¼ | 12½ |
| Mean Prices, 1900 | 2 10 | 3 0½ | 5 5½ | 11 0 | 2¼ | 12½ |

The prices ruling for milling produce and feed grains throughout the year exhibited a general tendency to fall.

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For locally-grown wheat the quotations ranged from 2s. 10½d. in July to 2s. 6½d. in December. Barley and oats are for the most part imported, and the prices of these cereals during the year call for little notice. Maize, on the contrary, is almost wholly of local growth, and its price averaged 2s. 8¼d. per bushel; varying from 2s. 5½d. in June to 3s. in December. Prices for the various forms of fodder showed a tendency to fall during the greater part of the year, and generally were over 10 per cent. lower at the end than at the beginning of the year. Root crops show very great range. Thus, locally-grown potatoes varied between £2 10s. 6d. and £7 2s. 6d. per ton; while onions sold for £2 3s. 9d. per ton in January, as against £10 6s. 3d. in October. No quotations are given in some of the columns of the foregoing tables; in the months in which these omissions occur no produce was offered, or a quantity insufficient to merit a quotation.

The wholesale prices of farm-yard and dairy produce in the Sydney markets are shown in the preceding table. The figures call for little comment beyond the caution already given in regard to the prices of commodities generally—that the averages are irrespective of the quantities sold. As regards most of the articles in the list, the lower the price the larger the consumption. The exception to this rule is poultry, which is most in demand before the Christmas season, when prices are correspondingly high. A comparison of the average wholesale prices ruling for milling produce and feed grains for the last ten years is given in the following figures :—

| Year. | Milling Produce. | | | | Feed Grains. | | |
|---|---|---|---|---|---|---|---|
| | Wheat. | Flour. | Bran. | Pollard. | Barley. | Oats. | Maize. |
| | Per bushel. | Per ton. | Per bushel. | Per bushel. | Per bushel. | Per bushel. | Per bushel. |
| | s. d. | £ s. d. | d. | d. | s. d. | s. d. | s. d. |
| 1891 | 4 5 | 11 0 0 | 9⅜ | 9½ | 2 7 | 1 10½ | 2 7½ |
| 1892 | 4 6 | 11 0 0 | 11½ | 11½ | 3 2 | 2 7 | 3 1 |
| 1893 | 3 6½ | 8 16 2 | 8¼ | 8⅜ | 3 0½ | 2 8 | 3 9½ |
| 1894 | 2 9½ | 7 9 0 | 7½ | 7¼ | 2 10½ | 2 2¼ | 2 2½ |
| 1895 | 3 4 | 8 0 9 | 9 | 9 | 3 3 | 2 3¼ | 2 4¼ |
| 1896 | 4 3 | 10 13 1 | 8½ | 8½ | 2 10½ | 2 2⅜ | 2 4⅜ |
| 1897 | 4 5¾ | 12 5 3 | 8⅜ | 9 | 3 0¼ | 2 4½ | 2 4¼ |
| 1898 | 3 8 | 9 18 6 | 7½ | 8¼ | 2 6¾ | 2 5¼ | 2 7½ |
| 1899 | 2 10 | 6 18 6 | 8¼ | 9 | 2 5 | 1 11½ | 3 0 |
| 1900 | 2 8½ | 6 8 7 | 7⅜ | 8½ | 2 3 | 2 3½ | 2 8¼ |

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| Year. | Root Crops. | | Fodder. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Hay. | | | Straw. | Chaff. | | | | |
| | Potatoes. | Onions. | Oaten or Wheaten. | Lucerne. | | | Oaten. | | | Straw. | |
| | | | | | | | Prime. | Medium. | | | |
| | Per ton. | Per ton. | Per ton. | Per ton. | | Per ton. | Per ton. | Per ton. | | Per ton. | |
| | £ s. d. | £ s. d. | £ s. d. | £ s. d. | | £ s. d. | £ s. d. | £ s. d. | | £ s. d. | |
| 1891 | 2 15 0 | 4 10 0 | 4 15 0 | 3 0 0 | | 2 5 0 | 4 5 0 | 3 5 0 | | 2 10 0 | |
| 1892 | 3 10 0 | 4 3 2 | 4 4 7 | 2 19 9 | | 2 11 6 | 4 11 3 | 3 9 9 | | 3 6 0 | |
| 1893 | 4 14 6 | 6 1 2 | 3 10 3 | 3 0 5 | | 2 3 4 | 4 3 4 | 3 15 5 | | 2 5 0 | |
| 1894 | 3 1 6 | 8 19 10 | 3 5 5 | 2 17 11 | | 2 0 2 | 4 0 10 | 3 7 0 | | * | |
| 1895 | 3 5 8 | 4 6 1 | £3 7 6 | | | 2 11 0 | £3 16 8 | | | * | |
| 1896 | 4 1 10 | 9 0 4 | 4 7 2 | | | 3 0 9 | 4 11 10 | | | * | |
| 1897 | 3 8 9 | 7 19 6 | 4 2 5 | | | 2 8 7 | 4 8 3 | | | * | |
| 1898 | 7 5 4 | 8 16 5 | 3 8 2 | | | 2 1 8 | 3 6 2 | | | * | |
| 1899 | 3 17 3 | 4 3 6 | 3 7 3 | | | 2 4 5 | 3 2 10 | | | * | |
| 1900 | 3 13 2 | 4 17 0 | 2 13 9 | | | 1 17 6 | 3 2 2 | | | 1 17 6 | |

* No quotations.

| Year. | Butter. | Cheese (Loaf). | Bacon. | Eggs. | Poultry. | | | | Bee Produce. | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Fowls. | Ducks. | Geese. | Turkeys | Honey. | Wax. |
| | Per lb. | Per lb. | Per lb. | Per doz. | Per pair. | Per pair. | Per pair. | Per pair. | Per lb. | Per lb. |
| | s. d. | d. | d. | s. d. | s. d. | s. d. | s. d. | s. d. | d. | d. |
| 1891 | 0 10 | 5½ | 7½ | 1 3½ | 3 0 | 3 6 | 5 6 | 8 6 | 4 | 10½ |
| 1892 | 1 0 | 4 | 7 | 1 1 | 3 2 | 3 5 | 5 4 | 7 8 | 3½ | 10½ |
| 1893 | 0 8½ | 3¾ | 6½ | 1 1 | 3 1¾ | 3 2½ | 4 8 | 7 6 | 3½ | 11 |
| 1894 | 0 8 | 4 | 6½ | 0 11 | 3 3 | 3 4 | 4 9 | 7 10 | 2¾ | 10½ |
| 1895 | 0 9¾ | 5½ | 6 | 0 10½ | 2 8 | 2 8½ | 4 2½ | 6 6 | 2¾ | 12 |
| 1896 | 0 9½ | 5½ | 6 | 0 11 | 3 3 | 3 5 | 4 7 | 9 10 | 3 | 12½ |
| 1897 | 0 10½ | 3½ | 6½ | 0 11 | 3 2 | 3 2 | 4 5 | 9 7 | 2½ | 12½ |
| 1898 | 0 9¾ | 5½ | 7 | 0 10½ | 3 0 | 3 1 | 4 10 | 9 11 | 2½ | 12 |
| 1899 | 0 9½ | 5 | 6½ | 0 11½ | 3 3 | 3 1 | 4 11 | 11 3 | 2½ | 12 |
| 1900 | 0 9¼ | 5½ | 6 | 0 11¼ | 2 10 | 3 0½ | 5 5½ | 11 0 | 2¼ | 12½ |

The prices of the items set forth in the tables just given are determined by the local, or at all events the Australasian demand, wheat, of course, being an exception, its price being fixed by that ruling in the markets of the world. The prices of pastoral and other raw produce, which form so large a proportion of the exports of the state, are not sensibly affected by local consumption. No object is to be

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gained by showing the monthly variations, so that in the following statement, giving the wholesale prices of pastoral produce during 1900, only the average for the year is stated :—

| Commodity. | | Price. |
|---|---|---|
| Beef | per 100 lb. | 25s. 6d. |
| Mutton | per lb. | 1¾d. |
| Pork | „ | 4½d. |
| Wool— | | |
| Merino, scoured | „ | 14½d. |
| „ greasy, good average to superior | „ | 8d. |
| Crossbred, greasy, good superior | „ | 7½d. |
| Skirtings, scoured, merino | „ | 13d. |
| „ greasy | „ | 6¾d. |
| Sheepskins— | | |
| Full wool | „ | 7½d. |
| Medium | „ | 6d. |
| Short | „ | 5d. |
| Pelts | „ | 4½d. |
| Hides— | | |
| Cattle, heavy | „ | 4¾d. |
| „ medium | „ | 4½d. |
| „ others | „ | 4¾d. |
| Horse | each | 7s. 6d. |
| Leather skins— | | |
| Calves | „ | 1s. 10d. |
| Kangaroo, extra large | per doz. | 48s. |
| „ other | „ | 31s. |
| Fur skins— | | |
| Opossum | „ | 7s. 6d |
| Platypus | „ | 9s. |
| Bear | „ | 9s. 6d |
| Hair— | | |
| Horse, mane | per lb. | 1s. 2d |
| „ tail | „ | 1s. 9d. |
| Ox, tail (washed) | „ | 1s. 1d. |
| „ stumps | „ | 7d. |
| Bones— | | |
| Shank | per ton | £4 15s. |
| Common | „ | £3 10s. |
| Horns | per 100 | £1 10s. |
| Hoofs | per ton | £2 15s. |
| Tallow— | | |
| Mutton | „ | £24 10s. |
| Mixed | „ | £23 10s. |
| Beef | „ | £23 10s. |
| Wattle bark— | | |
| Good | „ | £7 10s. |
| Medium | „ | £6 |
| Tobacco— | | |
| Good | per lb. | 1¾d. to 2d. |
| Medium | „ | 1d. |

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## Price Levels.

The total value of the exports of the state is greatly affected by the prices obtained for certain leading lines of raw produce, of which wool and coal are the most important. In the following table the price-level of domestic exports is given for forty-one years, beginning with 1860. In order to ascertain the price-level, all the principal articles of domestic produce exported have been taken, and the prices of 1900 and the average prices of the five years 1870–74 have been applied to the quantities of each year, and the result compared with the actual total of such year. The value of the articles taken to obtain the price-level amounts on an average to more than 90 per cent. of the domestic exports, exclusive of gold. It is considered that the system adopted enables a truer estimate of the relative prices to be obtained than that of selecting the prices of certain articles without giving due weight to the quantities of such articles exported:—

| Year. | Price-level of Exports. | | Year. | Price-level of Exports. | |
|---|---|---|---|---|---|
| | 1900 prices = 1,000. | Average of 1870-74 prices = 1,000. | | 1900 prices = 1,000. | Average of 1870-74 prices = 1,000. |
| 1860 | 1,828 | 1,247 | 1881 | 1,315 | 897 |
| 1861 | 1,825 | 1,244 | 1882 | 1,357 | 926 |
| 1862 | 1,921 | 1,310 | 1883 | 1,357 | 926 |
| 1863 | 1,746 | 1,191 | 1884 | 1,345 | 919 |
| 1864 | 1,931 | 1,316 | 1885 | 1,181 | 806 |
| 1865 | 1,767 | 1,203 | 1886 | 1,136 | 775 |
| 1866 | 1,830 | 1,249 | 1887 | 1,167 | 797 |
| 1867 | 1,691 | 1,154 | 1888 | 1,132 | 773 |
| 1868 | 1,692 | 1,155 | 1889 | 1,150 | 785 |
| 1869 | 1,544 | 1,053 | 1890 | 1,111 | 758 |
| 1870 | 1,289 | 879 | 1891 | 1,010 | 689 |
| 1871 | 1,576 | 1,075 | 1892 | 956 | 652 |
| 1872 | 1,436 | 979 | 1893 | 865 | 590 |
| 1873 | 1,522 | 1,037 | 1894 | 780 | 532 |
| 1874 | 1,508 | 1,028 | 1895 | 799 | 546 |
| 1875 | 1,502 | 1,027 | 1896 | 840 | 573 |
| 1876 | 1,424 | 972 | 1897 | 816 | 557 |
| 1877 | 1,306 | 891 | 1898 | 864 | 590 |
| 1878 | 1,300 | 887 | 1899 | 1,079 | 736 |
| 1879 | 1,349 | 921 | 1900 | 1,000 | 682 |
| 1880 | 1,324 | 903 | | | |

These figures show that there has been a great fall in the prices of produce exported since 1860, or still greater since 1864, viz., from the index number 1,316 to 682, or over 48 per cent. Marked fluctuations, ranging to about 10 per cent., occurred between 1860 and 1866, when the index number was about the same as in the first-named year. From 1866 to 1870 there was a drop from 1,249 to 879, or nearly 30 per cent. A rise followed in 1871 to 1,075, or about 20 per cent., after which for three years prices continued fairly steady, until there

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was a further decline in 1878 to 887. In 1879 the level rose to 921, and for the next four years prices continued without much change, but from 1884 to 1885 there was a fall from 919 to 806. This was succeeded by a fairly even range until 1889, when the level stood at 785. From 1889 there was a steep decline to 532 in 1894, a fall of 32 per cent. over the whole period of five years. During the following two years there was a slight rise, the level for 1896 standing at 573, but in 1897 there was again a decline to 557, followed by a further rise to 736 in 1899, and again falling to 682 in 1900. The fall during the whole period of thirty-nine years was about 45 per cent. It will be seen that the purchasing power of money has steadily increased since 1864, if the Customs values of the exports fairly represent the prices ruling in the general community, whether in the state or elsewhere, and that 20s. in 1900 would purchase the same articles of domestic export which in 1864 would have cost nearly 39s.

The chief articles of domestic export are wool, coal, shale, live-stock, tin, silver, silver-lead and ore, copper, skins, tallow, and leather. Other articles have also been exported to considerable value in times past, but their importance has disappeared, or is lost in comparison with that of the products just named. Wool and coal have contributed greatly to the wealth of the state, and the fluctuation in their prices has had a very marked effect on the condition of trade. The price-level of these commodities has been computed for the period which is covered by the general table just given. It will be seen that the fluctuations in the value both of wool and of coal have been more marked than those in the value of the general exports, but the same tendency to fall is clearly enough discernible:—

| Year. | Price-level. | | | |
|---|---|---|---|---|
| | Wool. | | Coal. | |
| | 1900 prices = 1,000. | Average of 1870–74 prices = 1,000. | 1900 prices = 1,000. | Average of 1870–74 prices = 1,000. |
| 1860 | 2,232 | 1,573 | 2,079 | 1,408 |
| 1861 | 2,477 | 1,746 | 2,051 | 1,389 |
| 1862 | 2,364 | 1,666 | 2,103 | 1,424 |
| 1863 | 2,114 | 1,489 | 1,956 | 1,324 |
| 1864 | 2,332 | 1,573 | 1,510 | 1,023 |
| 1865 | 1,970 | 1,388 | 1,479 | 1,001 |
| 1866 | 1,949 | 1,374 | 1,472 | 997 |
| 1867 | 1,971 | 1,389 | 1,416 | 959 |
| 1868 | 1,845 | 1,299 | 1,413 | 956 |
| 1869 | 1,574 | 1,108 | 1,325 | 897 |
| 1870 | 1,209 | 852 | 1,229 | 832 |
| 1871 | 1,625 | 1,145 | 1,205 | 816 |
| 1872 | 1,393 | 981 | 1,221 | 827 |
| 1873 | 1,446 | 1,019 | 1,805 | 1,223 |
| 1874 | 1,423 | 1,003 | 1,922 | 1,302 |
| 1875 | 1,396 | 984 | 1,922 | 1,302 |
| 1876 | 1,342 | 945 | 1,909 | 1,293 |

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| Year. | Price-level. | | | |
|---|---|---|---|---|
| | Wool. | | Coal. | |
| | 1900 prices = 1,000. | Average of 1870-74 prices = 1,000. | 1900 prices = 1,000. | Average of 1870-74 prices = 1,000. |
| 1877 | 1,277 | 900 | 1,881 | 1,273 |
| 1878 | 1,213 | 854 | 1,868 | 1,265 |
| 1879 | 1,293 | 911 | 1,848 | 1,252 |
| 1880 | 1,309 | 922 | 1,500 | 1,016 |
| 1881 | 1,303 | 918 | 1,073 | 726 |
| 1882 | 1,296 | 906 | 1,361 | 922 |
| 1883 | 1,306 | 920 | 1,456 | 986 |
| 1884 | 1,309 | 922 | 1,461 | 990 |
| 1885 | 1,102 | 777 | 1,461 | 990 |
| 1886 | 1,023 | 721 | 1,448 | 980 |
| 1887 | 1,052 | 741 | 1,423 | 964 |
| 1888 | 1,007 | 709 | 1,470 | 995 |
| 1889 | 1,061 | 747 | 1,421 | 963 |
| 1890 | 992 | 700 | 1,438 | 974 |
| 1891 | 879 | 619 | 1,380 | 935 |
| 1892 | 863 | 608 | 1,246 | 844 |
| 1893 | 773 | 545 | 1,175 | 796 |
| 1894 | 715 | 504 | 1,002 | 678 |
| 1895 | 795 | 560 | 945 | 640 |
| 1896 | 850 | 599 | 963 | 652 |
| 1897 | 820 | 578 | 935 | 633 |
| 1898 | 883 | 622 | 913 | 618 |
| 1899 | 1,231 | 867 | 951 | 644 |
| 1900 | 1,000 | 704 | 1,000 | 677 |

A similar table for silver is given below, commencing with the year 1884, when silver-mining in New South Wales first became an important industry, owing to the discovery of the Silverton and Broken Hill mines:—

| Year. | Price-level of Silver. | |
|---|---|---|
| | 1900 prices = 1,000. | 1884 prices = 1,000. |
| 1884 | 1,791 | 1,000 |
| 1885 | 1,718 | 959 |
| 1886 | 1,604 | 895 |
| 1887 | 1,577 | 880 |
| 1888 | 1,515 | 846 |
| 1889 | 1,509 | 842 |
| 1890 | 1,687 | 942 |
| 1891 | 1,595 | 890 |
| 1892 | 1,407 | 785 |
| 1893 | 1,259 | 703 |
| 1894 | 1,025 | 572 |
| 1895 | 1,056 | 589 |
| 1896 | 1,088 | 607 |
| 1897 | 974 | 544 |
| 1898 | 952 | 531 |
| 1899 | 970 | 541 |
| 1900 | 1,000 | 558 |

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It must not be supposed that the state is altogether a loser by the fall in the prices of its exports, because the power of those exports to purchase imports must also be taken into consideration. It will, therefore, be necessary to consider also the price-level of imports. As there exist no reliable data on which price-levels for imports can be based prior to 1870, the table commences with that year :—

| Year. | Price-level of Imports. | | Year. | Price-level of Imports. | |
|---|---|---|---|---|---|
| | 1900 prices = 1,000. | Average of 1870–74 prices = 1,000. | | 1900 prices = 1,000. | Average of 1870–74 prices = 1,000. |
| 1870 | 1,285 | 966 | 1886 | 1,033 | 776 |
| 1871 | 1,291 | 970 | 1887 | 1,042 | 783 |
| 1872 | 1,350 | 1,014 | 1888 | 1,037 | 779 |
| 1873 | 1,371 | 1,030 | 1889 | 1,080 | 812 |
| 1874 | 1,357 | 1,020 | 1890 | 1,070 | 804 |
| 1875 | 1,279 | 962 | 1891 | 1,021 | 767 |
| 1876 | 1,256 | 944 | 1892 | 979 | 736 |
| 1877 | 1,206 | 908 | 1893 | 942 | 708 |
| 1878 | 1,198 | 900 | 1894 | 895 | 673 |
| 1879 | 1,146 | 862 | 1895 | 886 | 666 |
| 1880 | 1,155 | 868 | 1896 | 922 | 693 |
| 1881 | 1,143 | 859 | 1897 | 931 | 700 |
| 1882 | 1,137 | 855 | 1898 | 942 | 708 |
| 1883 | 1,156 | 869 | 1899 | 937 | 704 |
| 1884 | 1,146 | 862 | 1900 | 1,000 | 752 |
| 1885 | 1,052 | 790 | | | |

It may be said generally that the fall in prices was somewhat in favour of the exports up to the year 1889. Since then the exports have fallen away on the average values at a much more rapid rate than the imports. A clearer view of the operation of the fall in prices will be obtained from the table which is given below, showing the price-levels of imports of merchandise for home consumption, and exports of domestic produce, for periods of five years, with the relative fall per cent. :—

| Period. | Imports. | | Exports. | |
|---|---|---|---|---|
| | Average of five years, 1870–4, prices = 1,000. | Decline in prices in five years, per cent. | Average of five years, 1870–4, prices = 1,000. | Decline in prices in five years, per cent. |
| 1870–74 | 1,000 | ..... | 1,000 | ..... |
| 1875–79 | 915 | 8·5 | 940 | 6·0 |
| 1880–84 | 863 | 5·9 | 914 | 2·9 |
| 1885–89 | 788 | 8·5 | 787 | 13·8 |
| 1890–94 | 737 | 6·5 | 645 | 18·0 |
| 1895–99 | 694 | 5·8 | 600 | 7·0 |

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It will be seen that, assuming the index number of the five years 1870–4 to be 1,000, the fall in the succeeding five years was 8·5 per cent. for the imports as compared with 6 per cent. for the exports. The average value of the imports for the five years ending with 1884 was 5·9 per cent. less than in the preceding quinquennial period, whereas the difference in the value of the exports was 2·9 per cent. The index number for 1885–9 for both imports and exports was practically the same figure, as the fall in the value of the exports was much greater than in the value of the imports which they purchased. This unfortunate trend of prices was continued down to 1894; since then, however, prices have been more favourable, and there is every indication that they will be sustained during the present year.

New South Wales, in common with the other Australian states, is chiefly affected by the fall in prices because it is a debtor country. Certain calculations which have been made show that the annual charge payable by the state and municipalities on their indebtedness to British and foreign creditors is £2,074,000, while the earnings of investments made in the state by private persons, or drawn by absentees, amount to £2,545,000 per annum. As the whole of the interest on Government and municipal loans has to be paid by exports irrespective of the fall in prices, and as a large portion also of the interest payable to private investors is in the same category, the fall is a matter of very serious importance to these states. Fortunately the increase of production in New South Wales as compared with the population has been such as partly to counteract the fall in prices; and if the change in regard to the value of Australian produce which began in 1895 be continued, the condition of the state will be in every respect most hopeful.

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# PUBLIC FINANCE.

## System of Revenue and Expenditure Accounts.

ON the 18th November, 1895, an Act amending the Audit Act of 1870 was assented to. By this Act it was declared "that all appropriations from the Consolidated Revenue Fund shall lapse at the close of the financial year to which they refer, and from the 1st day of July, 1895, the cash receipts within the financial year shall be considered as the actual income, and the cash payments during the same period, the actual outlay." This amounted to a complete revolution in the system of keeping the public accounts, introducing what is usually termed the "cash basis," a system which obtains in several of the adjoining states, and has been found to work in the interests of economy and good government. Under the method that has been superseded, the expenditure for the services of a year and the actual expenditure during that year could only be shown by two different systems of accounts. When a specific appropriation was made for any service, the expenditure incurred under such authorisation would be charged against the year for which the vote was taken, irrespective of the date when the payments were made; and for this reason the public accounts for any year could not be closed until all appropriations lapsed, or were written off or exhausted. As a matter of practice, when the expenditure exceeded the income, there were frequent differences of opinion between the incoming and outgoing Treasurers as to the propriety of charging items, sometimes of large amount, to particular years, with the result that conflicting and irreconcilable statements were made, to the confusion of the uninitiated and the detriment of public credit.

Even the most carefully prepared statement of the finances of the country may lead to the confusion of the inquirer, who at all times must have before his eyes the fact that in the official statements the term "expenditure" does not necessarily mean always the same thing. There are refunds, advances, cross-entries, cancellations, &c., to be noted; so that it rarely happens that any presentation of the accounts is complete in itself. Then there is the question of the date of appropriation to be considered. Thus, in the table comparing gross revenue with gross expenditure, there appears an excess of expenditure in 1893 of £582,288; but if the expenditure proper to that year only were taken into consideration, the excess of expenditure would have been £110,141.

The Audit Act Amendment Act of 1895 having placed the public income and expenditure on a cash basis, no difficulty should be

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experienced in determining the financial position of the state. It is only, however, within the past two years that the method of presentation of the public accounts admits of anything like a reasonably expeditious and accurate estimate being formed. In order to arrive at a satisfactory conclusion, it is necessary to consider the Treasurer's Advance Account, and latterly the Expenditure Suspense Account, in conjunction with the expenditure in chief for the year. Under the cash system, the expenditure should be debited to the year in which the payment is made, and not to the year in which the appropriation is authorised and the adjustment effected. This method has been adopted in the subsequent statements relating to expenditure from Consolidated Revenue, and an analysis of the Treasurer's Advance Account since the introduction of the cash system, and the Expenditure Suspense Account since its inception in 1898–9, has been carried out, and the payments attached to the year in which they were actually made.

In order to show how unfavourably Estimates of Expenditure and Revenue realised compare with one another, the following statement has been compiled. The figures cover eleven and a half years, and, with the exception of the last two years, the revenue appropriated exceeded that realised in every year during the period :—

| Year. | Appropriations for Services of each year, irrespective of the year in which the appropriation was made. | Gross Revenue. | Excess of Appropriations. |
|---|---|---|---|
| | £ | £ | £ |
| 1890 | 9,809,183 | 9,494,584 | 314,599 |
| 1891 | 10,758,952 | 10,036,185 | 722,767 |
| 1892 | 11,288,413 | 10,501,104 | 787,309 |
| 1893 | 10,513,158 | 9,706,734 | 806,424 |
| 1894 | 10,203,957 | 9,507,928 | 696,029 |
| *1895 | 4,923,339 | 4,943,947 | †20,608 |
| ‡1896 | 9,491,592 | 9,270,088 | 221,504 |
| ‡1897 | 9,922,886 | 9,288,359 | 634,527 |
| ‡1898 | 9,572,397 | 9,482,092 | 90,305 |
| ‡1899 | 9,799,949 | 9,754,185 | 45,764 |
| ‡1900 | 10,104,067 | 10,203,931 | †99,864 |
| ‡1901 | 10,632,222 | 10,805,543 | †173,321 |

* Six months ended 30th June. † Excess of Revenue.
‡ Year ended 30th June.

Taking the figures as they stand, it will be seen that from the 1st January, 1890, to the 30th June, 1901, there was appropriated for the

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public service the sum of £117,020,085, while the actual revenue obtained was £112,994,580. Fortunately, the expenditure actually incurred was below that authorised by Parliament, so that the figures just given merely show what might have happened had the authority of Parliament been fully availed of. The actual excess of expenditure, however, as will be seen from the statement given below, was sufficiently serious in itself. The figures are exclusive of advances repaid and made:—

| Year. | Gross Revenue. | Gross Expenditure occurring in the year, irrespective of date of appropriation. | Excess of Revenue over Expenditure. | Excess of Expenditure over Revenue. |
|---|---|---|---|---|
| | £ | £ | £ | £ |
| 1890 | 9,494,584 | 9,574,562 | ..... | 79,978 |
| 1891 | 10,036,185 | 10,478,673 | ..... | 442,488 |
| 1892 | 10,501,104 | 10,537,913 | ..... | 36,809 |
| 1893 | 9,706,734 | 10,289,022 | ..... | 582,288 |
| 1894 | 9,507,928 | 9,487,230 | 20,698 | ..... |
| *1895 | 4,943,847 | 4,924,353 | 19,494 | ..... |
| †1896 | 9,270,088 | 9,877,611 | ..... | 607,523 |
| †1897 | 9,288,359 | 9,495,726 | ..... .... | 207,367 |
| †1898 | 9,482,092 | 9,476,619 | 5,473 | ..... |
| †1899 | 9,754,185 | 9,743,509 | 10,676 | ..... |
| †1900 | 10,203,931 | 10,316,381 | ..... | 112,450 |
| †1901 | 10,805,543 | 10,922,862 | ..... | 117,319 |

* Six months ended 30th June. † Year ended 30th June.

Taking 1891 as an illustration of the old system, it may be mentioned that the expenditure for the twelve months extended over six years, and amounted to £10,579,576, of which £9,633,045 only was incurred during the year, and £946,531 in the following years; and, as further illustrating the anomalies of the old system, it may be mentioned that the revenue for the year was £10,036,185, or £543,391 less than the total outgoings, and only £403,140 more than the expenditure within and chargeable to the year, although a possible further expenditure of £1,125,907 had been provided for. Such being the ordinary condition of accounts, it will without difficulty be conceded that under so loose a system a succession of deficits was only to be expected.

One unacquainted with the peculiarities of state finance might find it hard to understand how it is possible for a large deficit to have accumulated, and an expenditure in excess of revenue to have been still further indulged in. The explanation is simple. Through the operation of various Acts of the Legislature, and the accumulations in the

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Post Office Savings Banks, the Treasury has at its disposal large sums in trust, and by the use of this money the accumulated deficits have been temporarily met. When in 1889 the deficit was consolidated, and Parliament authorised the issue of Treasury Bills to pay it off, these bills were not issued to the public, but, by entries in the books of the Treasury, the necessary sum was drawn from the Trust Funds in hand, and invested in the bills. This was only a formal operation, as the money had already been loaned to the revenue, and the issue of the bills simply turned a floating debt into one for a fixed term.

The references to appropriations would be incomplete without the subjoined statement, which shows the total appropriations for the services of each year subdivided into three heads. The amounts given in the first two columns taken together represent the Estimates in-chief for each year:—

| Year ending 31st December. | Amount appropriated during year. | | Amount appropriated in subsequent years. | Total amount authorised to be expended from Consolidated Revenue from January, 1887, to June, 1901. |
|---|---|---|---|---|
| | Special appropriation (Fixed Statutory Liabilities). | Annual Votes. | | |
| | £ | £ | £ | £ |
| 1887 | 2,082,306 | 6,398,360 | 573,196 | 9,053,862 |
| 1888 | 2,090,326 | 6,416,595 | 632,064 | 9,138,985 |
| 1889 | 2,126,379 | 7,067,272 | 300,125 | 9,493,776 |
| 1890 | 2,481,145 | 6,742,928 | 585,110 | 9,809,183 |
| 1891 | 2,533,116 | 7,117,053 | 1,108,783 | 10,758,952 |
| 1892 | 2,756,958 | 8,045,007 | 486,448 | 11,288,413 |
| 1893 | 2,924,195 | 7,105,478 | 483,485 | 10,513,158 |
| 1894 | 3,028,297 | 6,750,537 | 425,123 | 10,203,957 |
| *1895 | 1,472,412 | 3,405,451 | 45,476 | 4,923,339 |
| †1896 | 2,759,564 | 6,705,697 | 26,331 | 9,491,592 |
| †1897 | 2,663,223 | 7,259,663 | ..... | 9,922,886 |
| †1898 | 2,936,937 | 6,635,460 | ..... | 9,572,397 |
| †1899 | 2,955,176 | 6,844,773 | ..... | 9,799,949 |
| †1900 | 2,999,711 | 7,104,356 | ..... | 10,104,067 |
| †1901 | 3,058,239 | 7,573,983 | ..... | 10,632,222 |

* Six months ended 30th June. † Twelve months ended 30th June.

It will be noticed that there is a large annual expenditure provided for under Special Acts apart from the annual appropriations of Parliament. The special appropriations form a primary charge on each year's revenue collections.

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## General Banking Account.

The subjoined table has been inserted in order to make clear the Government banking operations. It shows each of the main accounts under which the Government conducts its financial business, as the subsidiary accounts are operated on under one or other of the headings enumerated. The Audit Act defines that all the accounts coming under the Act shall constitute the Public Account; however, for convenience of working, the Public Account includes only the Consolidated Revenue Fund, the Trust Funds subject to the Audit Act, and Special Suspense Accounts. These accounts, with the General Loan Account, and the Trust Funds not subject to the Audit Act, form the "General Account." The cash side of this account for banking purposes is operated on under the "General Banking Account"; and, in establishing the daily balance, the aggregate of the credits is set against that of the debits, and so long as the former exceeds the latter the whole banking account is in credit. At the present time, the Trust Funds, to which attention will be subsequently directed, largely assist in keeping the account in credit. The state of the main divisions of the General Account on the 30th June, 1901, will be found below :—

| Head of Account. | Credit Balances on 30th June, 1901. | | |
|---|---|---|---|
| | Amount invested in Securities. | Credit Cash Balance. | Total. |
| Public Account— | £ | £ | £ |
| Trust Funds (subject to Audit Act) .. .. .. | 5,594,744 | 4,159,683 | 9,754,427 |
| Consolidated Revenue Fund .. .. .. Dr. | ..... | 152,187 | 152,187 |
| Special Suspense Accounts— | | | |
| General Post Office New Street Resumption Account .. .. Dr. 376,762 | | | |
| Centennial Park Account .. .. Dr. 228,417 | | | |
| Advances to General Loan Account.. Dr. 1,500,000 | | | |
| General Loan Account .. .. .. Dr. 1,003,001 | | | |
| Imperial Contingent Bushmen's Account 1,179 | | | |
| do do No. 2 „ Dr. 63,643 | | | |
| Federal Expenditure Account .. Dr. 16,088 | ..... | 3,189,090 | 3,189,090 |
| Credit Balance of "Public Account," on 30th June, 1901 .. .. .. .. £ | 5,594,744 | 818,406 | 6,413,150 |
| Trust Funds (not subject to Audit Act)— | | | |
| New South Wales 1924 Stock Redemption Fund .. | ..... | 39,613 | 39,613 |
| New South Wales 1925 Stock Redemption Fund .. | ..... | 44,451 | 44,451 |
| New South Wales 1927 Stock Redemption Fund .. | ..... | 27,750 | 27,750 |
| New South Wales 1928 Stock Redemption Fund .. | ..... | 22,475 | 22,475 |
| New South Wales 1929 Stock Redemption Fund .. | ..... | 22,243 | 22,243 |
| New South Wales 1930 Stock Redemption Fund .. | ..... | 4,851 | 4,851 |
| Railway Loan Redemption Fund .. .. .. | ..... | 225,000 | 225,000 |
| Colonial Treasurer's Supreme Court Moneys Accounts .. .. .. .. .. .. | 318,554 | 357,975 | 676,529 |
| Colonial Treasurer's Bushmen's Contingent to South Africa Fund .. .. .. .. .. .. | ..... | 5,812 | 5,812 |
| Advances to Settlers Account .. .. .. .. .. | ..... | 12,490 | 12,490 |
| Balance of "General Account" on 30th June, 1901...£ | 5,913,298 | 1,581,066 | 7,494,364 |

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The distribution of the cash balance on the 30th June, 1901, is set forth in the following table, the London accounts being shown to the latest date available before the closing of the Public Accounts for the financial year :—

| | | £ | £ |
|---|---|---|---|
| Sydney Balance—30th June, 1901— | | | |
| Public Account (Consolidated Revenue Fund and General Trust Funds)— | | | |
| Bank of New South Wales | | 693,184 | |
| Commercial Banking Company of Sydney (Limited) | | 21,030 | |
| City Bank of Sydney | | 9,984 | |
| Cash in Treasury | | 254,765 | |
| | | | Cr. 968,913 |
| Special Trust Funds—Bank of New South Wales | Cr. | 762,660 | |
| General Loan Account—Bank of New South Wales | Dr. | 1,003,001 | |
| Imperial Bushmen's Contingent Account | Dr. | 1,179 | |
| " " No. 2 Account | Dr. | 63,643 | |
| Federal Expenditure Account | Dr. | 16,088 | Dr. 1,083,911 Dr. 321,251 |
| Total Cash in Sydney | £ | | Cr. 647,662 |
| London Account at date of latest advices— | | | |
| Public Account | | 113,404 | |
| Remittances in transit, &c. | | 820,000 | |
| | | | Cr. 933,404 |
| Total | £ | | Cr. 1,581,066 |

## CONSOLIDATED REVENUE FUND.

To understand the public accounts of the state necessitates on the part of the inquirer much patient study and a general knowledge of the financial and political history of the last twenty-five years; and it was not always possible even for a well-equipped and patient student to obtain more than a general idea of the state of the finances during the existence of the old system of account-keeping which came to an end in 1895. Now that the system of keeping accounts on a cash basis is properly in operation, in estimating the financial position of the country, there have still to be considered the Old Deficiency Account, the New Account under the Audit Act Amendment Act, and the Suspense Account, all forming part of the Consolidated Revenue Account, as well as the Loans Account and the various Trust Accounts not forming part of the Consolidated Revenue Account. The Old Deficiency Account properly begins in 1885, but it was only in 1897, when the last obligation under the old system of account keeping was met, that

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the position of this account for each year could be accurately stated. Until all obligations had been met, only an approximation could be made, and this depended for its accuracy on the correctness of the Treasurer's estimate of the liabilities outstanding for previous years. Prior to the last two issues of this volume no account was taken of these outstanding liabilities, the accumulated surplus or deficiency being set down as the sum of the Treasury bills outstanding and the cash overdraft or credit as the case might be. It is now possible to take into account outstanding liabilities for each year, and the figures in the previous editions of this work may be taken as the apparent accumulated deficiency, while the present figures represent the actual accumulated deficiency.

The confusion which has attended the presentation of the public accounts of the state will no longer exist now that operations on the Old Deficiency Accounts have been closed and the Treasury and the Audit Office are in a position to make a separation between the Old Deficiency Account and the New Account under the Audit Act Amendment Act. This distinction has been adopted in the following table, and the aggregate balance shown to the credit of the Consolidated Revenue Fund is the same as that exhibited by the Treasury in the statement of Public Accounts for the year ended 30th June, 1901.

| Year. | Cash Credit. | Debit. | | | | | Outstanding Liabilities (as ascertained by subsequent payments), less advances recovered, approximate. | Actual Accumulated Surplus. | Actual Accumulated Deficiency. |
|---|---|---|---|---|---|---|---|---|---|
| | | Treasury Bills Current. | | | Cash Overdraft. | Total Debit Balance. | | | |
| | | 1889–90 Issues. | 1896 Issues. | Total. | | | | | |
| | £ | £ | £ | £ | £ | £ | £ | £ | £ |
| 1870 | 32,059 | .... | .... | .... | .... | ..... | 366,644 | ..... | 334,585 |
| 1871 | .... | .... | .... | .... | 366,684 | 366,684 | 202,055 | ..... | 568,739 |
| 1872 | 132,338 | .... | .... | .... | .... | ..... | 205,929 | ..... | 73,591 |
| 1873 | 925,069 | .... | .... | .... | .... | ..... | †464,852 | 1,389,921 | ..... |
| 1874 | 825,608 | .... | .... | .... | .... | ..... | †439,349 | 1,264,955 | ..... |
| 1875 | 1,110,992 | .... | .... | .... | .... | ..... | †29,228 | 1,140,220 | ..... |
| 1876 | 1,945,807 | .... | .... | .... | .... | ..... | 488,624 | 1,457,183 | ..... |
| 1877 | 2,351,074 | .... | .... | .... | .... | ..... | 1,181,807 | 1,169,267 | ..... |
| 1878 | 1,922,784 | .... | .... | .... | .... | ..... | 387,750 | 1,535,034 | ..... |
| 1879 | 1,341,619 | .... | .... | .... | .... | ..... | 162,835 | 1,178,784 | ..... |
| 1880 | 1,410,227 | .... | .... | .... | .... | ..... | 221,161 | 1,219,066 | ..... |
| 1881 | 2,927,434 | .... | .... | .... | .... | ..... | 679,224 | 2,248,210 | ..... |
| 1882 | 3,888,753 | .... | .... | .... | .... | ..... | 985,905 | 2,902,848 | ..... |
| 1883 | 2,511,016 | .... | .... | .... | .... | ..... | 861,091 | 1,649,925 | ..... |
| 1884 | 1,229,338 | .... | .... | .... | .... | ..... | 718,493 | 510,845 | ..... |
| 1885 | 2,901 | .... | .... | .... | .... | ..... | 1,470,701 | ..... | 1,467,800 |
| 1886 | .... | .... | .... | .... | 1,286,581 | 1,286,581 | 1,198,485 | ..... | 2,485,066 |
| 1887 | .... | .... | .... | .... | 2,159,295 | 2,159,295 | 446,057 | ..... | 2,605,352 |
| 1888 | .... | .... | .... | .... | 1,581,645 | 1,581,645 | 808,785 | ..... | 2,390,430 |
| 1889 | 201,021 | 1,907,100 | .... | 1,907,100 | .... | 1,907,100 | 768,444 | ..... | 2,474,523 |
| 1890 | 758,328 | 2,352,884 | .... | 2,352,884 | .... | 2,352,884 | 793,330 | ..... | 2,388,386 |
| 1891 | 197,034 | 2,202,884 | .... | 2,202,884 | .... | 2,202,884 | 768,258 | ..... | 2,774,108 |
| 1892 | 107,827 | 2,052,884 | .... | 2,052,884 | .... | 2,052,884 | 1,036,191 | ..... | 2,981,248 |
| 1893 | .... | 1,902,884 | .... | 1,902,884 | 392,051 | 2,294,935 | 676,700 | ..... | 2,971,635 |
| 1894 | .... | 1,752,884 | .... | 1,752,884 | 464,715 | 2,217,599 | 925,497 | ..... | 3,143,096 |
| *1895 | .... | 1,752,884 | .... | 1,752,884 | 166,452 | 1,919,336 | 781,117 | ..... | 2,700,453 |

* Half-year ended 30th June. † Advances outstanding in excess of liabilities.



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| Year. | Cash Credit. | Debit. | | | | | Outstanding Liabilities (as ascertained by subsequent payments), less advances recovered, approximate. | Actual Accumulated Surplus. | Actual Accumulated Deficiency. |
|---|---|---|---|---|---|---|---|---|---|
| | | Treasury Bills Current. | | | Cash Overdraft. | Total Debit Balance. | | | |
| | | 1889-90 Issues. | 1896 Issues. | Total. | | | | | |
| **Old Deficiency Account.** | | | | | | | | | |
| | £ | £ | £ | £ | £ | £ | £ | £ | £ |
| *1896 | 160,242 | 1,602,884 | 1,174,700 | 2,777,584 | .... | 2,777,584 | †3,240 | ..... | 2,614,102 |
| *1897 | 16,199 | 1,452,884 | 1,024,700 | 2,477,584 | .... | 2,477,584 | †324 | ..... | 2,461,061 |
| *1898 | 16,523 | 1,302,884 | 1,024,700 | 2,327,584 | .... | 2,327,584 | ..... | ..... | 2,311,061 |
| *1899 | 24,484 | 1,152,884 | 1,024,700 | 2,177,584 | .... | 2,177,584 | ..... | ..... | 2,153,100 |
| *1900 | 24,484 | 1,002,884 | 1,024,700 | 2,027,584 | .... | 2,027,584 | ..... | ..... | 2,003,100 |
| *1901 | 24,484 | 852,884 | 1,024,700 | 1,877,584 | .... | 1,877,584 | ..... | ..... | 1,853,100 |
| **New Account under Audit Act Amendment Act of 1895.** | | | | | | | | | |
| *1896 | 290,894 | .... | .... | .... | .... | ..... | ..... | 290,894 | .... |
| *1897 | 47,268 | .... | .... | .... | .... | ..... | ..... | 47,268 | .... |
| *1898 | .... | .... | .... | .... | 24,486 | ..... | ..... | .... | 24,486 |
| *1899 | 11,112 | .... | .... | .... | .... | ..... | ..... | 11,112 | .... |
| *1900 | .... | .... | .... | .... | 6,743 | ..... | ..... | .... | 6,743 |
| *1901 | .... | .... | .... | .... | 176,671 | ..... | ..... | .... | 176,671 |

* Year ended 30th June. † Advances outstanding in excess of liabilities.

It will be seen that there was a deficiency of £1,853,100 on the Old Account and a debit of £176,671 to the New Account. This would make the actual deficiency £2,029,771 ; but it must be understood that the New Account is kept distinct from the Old Account, and any surplus is carried forward and used for current purposes. The old deficiency is being redeemed at the rate of £150,000 a year, and if future Treasurers contrive to make ends meet it will be nearly thirteen years before the deficiency will disappear. Besides the sum needed for its redemption, the accumulated deficiency of 1894 and previous years involve interest payments to the extent of £58,522 a year, making the total burthen on present accounts £208,522 per annum.

## Revenue and Expenditure.

Reliable information respecting the revenue and expenditure of the state dates from 1815, in which year the public receipts amounted to £21,639, and the expenditure to £19,980. From 1815 to 1840—the latter year being memorable in the annals of the state as that in which transportation ceased—the advance in the revenue was very rapid. In 1840 the public receipts amounted to £683,112—a sum not again reached until 1853, two years after the discovery of gold. From 1853 to 1859 the revenue made great strides, and amounted to £1,522,668 for the year last mentioned. In December, 1859, the separation of Queensland took place, and consequently a falling off in the revenue occurred in the following year, the amount collected being £1,308,925.

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The gross and net revenue proper for the years given in the table were as follow :—

| Year. | Gross Revenue (exclusive of Advances). | Refunds. | Net Revenue proper. | |
|---|---|---|---|---|
| | | | Total. | Per Inhabitant. |
| | £ | £ | £ | £ s. d. |
| 1860 | 1,308,925 | 28,209 | 1,280,716 | 3 14 9 |
| 1865 | 1,771,162 | 38,680 | 1,732,482 | 4 6 8 |
| 1870 | 2,102,697 | 52,978 | 2,049,719 | 4 3 8 |
| 1875 | 4,121,996 | 100,360 | 4,021,636 | 6 17 7 |
| 1880 | 4,904,230 | 97,841 | 4,806,389 | 6 11 11 |
| 1881 | 6,707,963 | 156,829 | 6,551,134 | 8 11 3 |
| 1882 | 7,410,737 | 192,151 | 7,218,586 | 9 0 10 |
| 1883 | 6,470,341 | 243,720 | 6,226,621 | 7 8 7 |
| 1884 | 7,117,592 | 280,813 | 6,836,779 | 7 14 10 |
| 1885 | 7,587,368 | 206,817 | 7,380,551 | 7 19 2 |
| 1886 | 7,593,050 | 218,235 | 7,374,815 | 7 12 2 |
| 1887 | 8,582,809 | 205,854 | 8,376,955 | 8 6 9 |
| 1888 | 8,886,332 | 172,148 | 8,714,184 | 8 8 2 |
| 1889 | 9,066,941 | 191,211 | 8,875,730 | 8 6 5 |
| 1890 | 9,494,584 | 188,893 | 9,305,691 | 8 8 11 |
| 1891 | 10,036,185 | 262,853 | 9,773,332 | 8 11 2 |
| 1892 | 10,501,104 | 434,641 | 10,066,463 | 8 11 0 |
| 1893 | 9,706,734 | 206,824 | 9,499,910 | 7 17 11 |
| 1894 | 9,507,928 | 157,877 | 9,350,051 | 7 12 5 |
| *1895 | 4,943,847 | 79,756 | 4,864,091 | ‡3 17 10 |
| †1896 | 9,270,088 | 178,720 | 9,091,368 | 7 4 1 |
| †1897 | 9,288,359 | 179,106 | 9,109,253 | 7 2 5 |
| †1898 | 9,482,092 | 177,208 | 9,304,884 | 7 2 11 |
| †1899 | 9,754,185 | 180,770 | 9,573,415 | 7 4 8 |
| †1900 | 10,203,931 | 230,195 | 9,973,736 | 7 8 5 |
| †1901 | 10,805,543 | 193,121 | 10,612,422 | 7 15 6 |

*Six months ended 30th June. †Twelve months ended 30th June. ‡Amount for six months.

Under the provisions of the Commonwealth of Australia Constitution Act, the control of Customs and Excise and the administration of the Post and Telegraph and Defence Departments were transferred to the Federal Government, the first-named on the 1st January, 1901, and the others on the 1st March, 1901, consequently the revenue derived from those sources, since the transfer, has only been included to the extent of the balance paid over to the state after deducting the expenditure incurred in connection with transferred services, and the proportion of other or new expenditure for which the state was liable.

The figures relating to revenue, both above and in subsequent tables, are exclusive of "Advances repaid"; and in dealing with expenditure "Advances made" have been excluded from consideration, as transactions under these heads do not affect the ordinary revenue and the expenditure therefrom. The terms "net revenue" and "net expenditure," used both here and in subsequent pages, are to be taken as meaning revenue and expenditure freed from the transactions just mentioned as well as from refunds.

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The net expenditure for years corresponding with those in the revenue statement is given in the subjoined table, it being assumed that the accounts are on a cash basis—that is, that each year's business is complete within that year. The term used in the table, "Expenditure from revenue of current year," must not be taken in a literal sense, as in only four years during the last decade has the revenue sufficed for the expenditure. This will be seen by comparing the annual expenditure given below with the revenue for the corresponding years shown in the preceding table :—

| Year. | Net Expenditure, exclusive of Advances. | | | Per Inhabitant. | | |
|---|---|---|---|---|---|---|
| | From Revenue of current year. | From accumulated surplus. | Total. | From Revenue of current year. | From Accumulated Surplus. | Total. |
| | £ | £ | £ | £ s. d. | £ s. d. | £ s. d. |
| 1860 | 1,284,568 | ..... | 1,284,568 | 3 15 0 | ..... | 3 15 0 |
| 1865 | 1,696,127 | ..... | 1,696,127 | 4 4 10 | ..... | 4 4 10 |
| 1870 | 2,550,002 | ..... | 2,550,002 | 5 4 1 | ..... | 5 4 1 |
| 1875 | 3,240,964 | ..... | 3,240,964 | 5 10 11 | ..... | 5 10 11 |
| 1880 | 5,129,028 | 331,287 | 5,460,315 | 7 0 9 | 0 9 1 | 7 9 10 |
| 1881 | 5,218,226 | 407,523 | 5,625,749 | 6 16 5 | 0 10 8 | 7 7 1 |
| 1882 | 5,631,499 | 524,160 | 6,155,659 | 7 1 0 | 0 13 2 | 7 14 2 |
| 1883 | 6,818,303 | 732,065 | 7,550,368 | 8 2 8 | 0 17 6 | 9 0 2 |
| 1884 | 7,531,771 | 598,426 | 8,130,197 | 8 10 7 | 0 13 7 | 9 4 2 |
| 1885 | 8,113,510 | 241,610 | 8,355,120 | 8 15 0 | 0 5 3 | 9 0 3 |
| 1886 | 8,786,808 | 72,469 | 8,859,277 | 9 1 3 | 0 1 6 | 9 2 9 |
| 1887 | 8,976,102 | 13,815 | 8,989,917 | 8 18 8 | 0 0 4 | 8 19 0 |
| 1888 | 8,471,755 | 20,211 | 8,491,966 | 8 3 8 | 0 0 4 | 8 4 0 |
| 1889 | 8,995,751 | 5,693 | 9,001,444 | 8 8 9 | 0 0 1 | 8 8 10 |
| 1890 | 9,385,669 | 3,677 | 9,389,346 | 8 10 3 | 0 0 1 | 8 10 4 |
| 1891 | 10,215,820 | ..... | 10,215,820 | 8 18 11 | ..... | 8 18 11 |
| 1892 | 10,103,272 | ..... | 10,103,272 | 8 11 8 | ..... | 8 11 8 |
| 1893 | 10,082,198 | ..... | 10,082,198 | 8 7 7 | ..... | 8 7 7 |
| 1894 | 9,329,353 | ..... | 9,329,353 | 7 12 1 | ..... | 7 12 1 |
| *1895 | 4,844,597 | ..... | 4,844,597 | ‡3 17 5 | ..... | ‡3 17 5 |
| †1896 | 9,698,891 | ..... | 9,698,891 | 7 13 8 | ..... | 7 13 8 |
| †1897 | 9,316,620 | ..... | 9,316,620 | 7 5 9 | ..... | 7 5 9 |
| †1898 | 9,299,411 | ..... | 9,299,411 | 7 2 10 | ..... | 7 2 10 |
| †1899 | 9,562,739 | ..... | 9,562,739 | 7 4 6 | ..... | 7 4 6 |
| †1900 | 10,086,186 | ..... | 10,086,186 | 7 10 1 | ..... | 7 10 1 |
| †1901 | 10,729,741 | ..... | 10,729,741 | 7 17 3 | ..... | 7 17 3 |

* Six months ended 30th June. † Twelve months ended 30th June. ‡ Amount for six months.

From 1872 to 1877—years notorious for the wholesale alienation of the public estate—the yearly income was considerably in excess of the annual payments, with the result that a large surplus was created. The excess payments of 1878 and 1879 reduced the amount somewhat, but the surpluses of 1881 and 1882 considerably augmented the fund. After the year last mentioned, however, large withdrawals were annually made, and the fund became practically exhausted at the end of 1885. Since that date the existing deficit has been accumulating.

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## Sources of Revenue.

The Revenue is classified under four heads—Taxation, Land Revenue, Receipts for Services Rendered, and General Miscellaneous Receipts. The net revenue falling under each of these four heads, during 1880 and subsequent years, is shown below :—

| Year. | Taxation. | | Land Revenue. | | Receipts for Services rendered. | | General Miscellaneous Receipts. | |
|---|---|---|---|---|---|---|---|---|
| | Total. | Per Inhabitant. | Total. | Per Inhabitant. | Total. | Per Inhabitant. | Total. | Per Inhabitant. |
| | £ | £ s. d. | £ | £ s. d. | £ | £ s. d. | £ | £ s. d. |
| 1880 | 1,379,065 | 1 17 10 | 1,695,227 | 2 4 1 | 1,597,009 | 2 3 10 | 224,988 | 0 6 2 |
| 1881 | 1,739,424 | 2 5 6 | 2,724,941 | 3 11 3 | 1,944,110 | 2 10 10 | 143,259 | 0 3 8 |
| 1882 | 1,861,663 | 2 6 8 | 2,707,470 | 3 10 1 | 2,303,781 | 2 19 2 | 195,672 | 0 4 11 |
| 1883 | 1,851,737 | 2 4 2 | 1,103,577 | 1 15 8 | 2,068,849 | 3 3 8 | 212,458 | 0 5 1 |
| 1884 | 2,100,713 | 2 7 7 | 1,379,021 | 1 15 9 | 2,090,701 | 3 6 4 | 226,344 | 0 5 2 |
| 1885 | 2,206,429 | 2 7 7 | 1,709,616 | 1 18 2 | 3,149,098 | 3 7 11 | 254,508 | 0 5 6 |
| 1886 | 2,552,506 | 2 12 8 | 1,543,058 | 1 11 10 | 3,067,288 | 3 3 3 | 211,063 | 0 4 5 |
| 1887 | 2,583,486 | 2 11 5 | 2,312,072 | 2 6 0 | 3,220,737 | 3 4 1 | 259,760 | 0 5 3 |
| 1888 | 2,626,027 | 2 10 8 | 2,210,438 | 2 2 8 | 3,620,242 | 3 9 11 | 257,207 | 0 4 11 |
| 1889 | 2,635,002 | 2 9 5 | 2,050,425 | 1 18 5 | 3,883,448 | 3 12 10 | 306,855 | 0 5 9 |
| 1890 | 2,704,043 | 2 9 1 | 2,158,445 | 1 19 2 | 4,128,092 | 3 15 1 | 304,311 | 0 5 6 |
| 1891 | 2,875,028 | 2 10 4 | 2,117,003 | 1 17 1 | 4,303,433 | 3 19 11 | 216,861 | 0 3 9 |
| 1892 | 3,345,265 | 2 16 10 | 1,947,999 | 1 13 1 | 4,546,595 | 3 17 3 | 227,004 | 0 3 10 |
| 1893 | 2,777,846 | 2 6 2 | 2,115,185 | 1 15 2 | 4,379,417 | 3 12 10 | 227,462 | 0 3 9 |
| 1894 | 2,688,603 | 2 3 10 | 2,078,751 | 1 13 11 | 4,251,666 | 3 9 3 | 330,941 | 0 5 5 |
| *1895 | 1,288,781 | 1 0 10 | 1,037,883 | 0 16 7 | 1,997,028 | 1 11 11 | 540,599 | 0 8 6 |
| †1896 | 2,493,622 | 1 19 6 | 1,970,240 | 1 11 4 | 4,315,670 | 3 8 5 | 305,836 | 0 4 10 |
| †1897 | 2,396,412 | 1 17 6 | 1,898,834 | 1 9 9 | 4,562,541 | 3 11 4 | 251,466 | 0 3 10 |
| †1898 | 2,511,298 | 1 18 6 | 1,976,816 | 1 10 4 | 4,610,546 | 3 10 10 | 206,224 | 0 3 3 |
| †1899 | 2,515,231 | 1 18 0 | 1,953,074 | 1 9 7 | 4,857,186 | 3 13 5 | 247,924 | 0 3 8 |
| †1900 | 2,618,069 | 1 18 11 | 2,116,076 | 1 11 5 | 4,992,521 | 3 14 4 | 247,070 | 0 3 9 |
| †1901 | 1,980,885 | ..... | 2,000,645 | 1 10 3 | 5,316,832 | ..... | 1,248,160 | ..... |

* Six months ended 30th June. † Twelve months ended 30th June.

In considering the foregoing figures relating to sources of revenue, it must be borne in mind that the receipts from Customs and Excise are for the six months ended 31st December, 1900, only. Taking into consideration the amount received by the Commonwealth Government from this state for the six months ended 30th June, 1901, and excluding refunds, the total amount of taxation was £2,999,893, or £2 4s. per inhabitant. Receipts for Services Rendered also include revenue derived from Posts and Telegraphs for the eight months ended 28th February only. The total revenue, including Commonwealth receipts for the four months ended 30th June, 1901, after allowing for refunds, was £5,593,768, or £4 2s. per inhabitant. General Miscellaneous Receipts include the sum of £883,273, the balance collected within the state by the Commonwealth and returned to the State Government. Excluding the net collections from Taxation and Services by the Commonwealth Government, which have been distributed above, the Actual General Miscellaneous Receipts for the year ended 30th June, 1901, were £365,897, or 5s. 4d. per inhabitant. The total net revenue, therefore, derived from the state during the financial year ended 30th June, 1901, was £11,026,103, but against this falls to be debited the sum of £413,681

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the proportion of expenditure chargeable to this state in the administration of services taken over and new expenditure incurred by the Commonwealth Government, thus reducing the actual net revenue to £10,612,422, or £7 15s. 6d. per inhabitant.

## Taxation.

Customs and Excise duties, License fees, Land and Income taxes, and Stamp duties represent the various forms of taxation in force in the state. Below will be found a statement showing the revenue derived from each source during the period 1899–1901; it is, however, to be understood that the Customs and Excise receipts shown in the last column refer only to the six months ended 31st December, 1900 :—

| Head of Revenue. | *1899. | *1900. | *1901. |
|---|---|---|---|
| *Indirect Taxation*— | | | |
| Customs :— | £ | £ | £ |
| Import Duties :— | | | |
| Spirits, wine, ale, and beer | 787,666 | 826,876 | 456,255 |
| Tobacco, cigars, cigarettes, and opium | 296,753 | 299,098 | 160,481 |
| Sugar and molasses | 120,671 | 145,467 | 69,003 |
| Other specific duties | 92,418 | 136,095 | 72,961 |
| Miscellaneous collections | 7,589 | 7,387 | 3,688 |
| Total, Customs | 1,305,097 | 1,414,923 | †762,388 |
| Excise :— | | | |
| Ale, beer, and porter | 151,683 | 157,807 | 85,395 |
| Duty on tobacco, cigars, and cigarettes | 160,192 | 175,414 | 94,488 |
| Other | 4,834 | 6,613 | 4,921 |
| Total, Excise | 316,709 | 339,834 | †185,304 |
| Licenses :— | | | |
| To retail fermented and spirituous liquors | 94,347 | 95,087 | 94,723 |
| Other | 27,413 | 25,300 | 29,473 |
| Total, Licenses | 121,760 | 120,387 | 124,196 |
| *Direct Taxation*— | | | |
| Income Tax | 182,221 | 194,246 | 222,453 |
| Land Tax | 272,028 | 295,604 | 292,188 |
| Total, Land and Income Tax | 454,249 | 489,850 | 514,641 |
| Stamp Duties :— | | | |
| Impressed and adhesive stamps | 123,930 | 137,437 | 154,822 |
| Probate, administration, and settlement duty | 166,763 | 99,374 | 201,052 |
| Other | 71,194 | 74,946 | 71,083 |
| Total, Stamp Duties | 361,887 | 311,757 | 426,957 |
| Gross Revenue from Taxation | 2,559,702 | 2,676,751 | 2,013,486 |
| Refunds | 44,471 | 58,682 | 32,601 |
| Net Revenue from Taxation | 2,515,231 | 2,618,069 | 1,980,885 |

* Twelve months ended 30th June. † For six months ended 31st December only.

Taking the Commonwealth collections of Customs and Excise into consideration, the gross Customs receipts by the Commonwealth and

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state for the year ended 30th June, 1901, amounted to £1,590,150, comprising £913,000 from spirits, wine, ale, and beer; £393,813 from tobacco, cigars, cigarettes, and opium; £144,253 from sugar and molasses; £131,917 from other specific duties; and £7,167 from miscellaneous collections. The gross Excise receipts under the dual control aggregated £385,494, comprising £170,210 from ale, beer, and porter; £204,862 from tobacco, cigars, and cigarettes; and £10,422 from spirits distilled in the state and tobacco-factory licenses. The gross revenue from Indirect Taxation received by the Commonwealth and State Governments, and that from Licenses and Direct Taxation by the State Government during the year ended 30th June, 1901, therefore, amounted to £3,041,438, from which has to be deducted a sum of £41,545 for refunds, leaving the net revenue derived from taxation in this state during the past year at £2,999,893.

The Customs tariff which was effective in this state to 8th October, 1901, has undergone considerable change since 1871, and no less than five principal Acts and three important amending Acts dealing with the tariff have been passed during the interval. The Customs Duties Act of 1895, assented to on the 12th December, 1895, provided for the abolition of all import duties hitherto in force, either on the 1st January, 1896, or on a later date named therein; the only articles excepted being spirits, wines, beer, tobacco, cigars, cigarettes, and opium, the duties on which remained the same as before. The Customs Duties Act of 1898 (32 of 1898), however, modified the Act of 1895, providing for the retention of the then existing duties on certain articles, imposing a duty of one penny per pound upon tea, and raising to twopence per pound the duty on certain kinds of dried and candied fruits. The tariff in force will be found detailed on page 157, in the part of this volume dealing with Commerce. The following were the tariff changes since May, 1871 :—

| Date when passed. | Act. | To take effect from | Alterations made. |
|---|---|---|---|
| 22 May, 1871 | 34 Vic. No. 21 (repealing all previous Acts). | 9 Mar., 1871 | Specific duties largely increased.<br>*Ad Valorem* duties of 5 per cent. imposed. |
| 28 Nov., 1873 | 37 Vic. No. 5 (repealing parts of 1871 Act). | 1 Jan., 1874 | The number of articles subject to duty reduced.<br>Duty imposed on Sarsaparilla containing more than 25 per cent. of proof spirit.<br>*Ad Valorem* duties of 5 per cent. abolished. |
| 6 Feb., 1880 | 43 Vic. No. 16 (amending Act). | 10 Dec., 1879 | Duties on Spirits, Spirituous Compounds, and Wines increased. |
| 2 April, 1884 | 47 Vic. No. 10 (amending Act). | 20 Feb., 1884 | Duties imposed on Stearine and Cigarettes.<br>Duties on Cigars, Tobacco, and Opium increased.<br>The limit of under-proof allowance of spirits fixed at 16·5.<br>The reputed contents of cases containing Spirits, Beer, and Wine regulated. |
| 28 Sept., 1886 | 50 Vic. No. 16 (repealing the 1871, 1873, 1880, and 1884 Acts, or the unrepealed portions of them). | 7 April, 1886 | The number of articles charged specific duties largely increased.<br>*Ad Valorem* duties of 5 per cent. reimposed.<br>Duty on Perfumed Spirits increased. |

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| Date when passed. | Act. | To take effect from | Alterations made. |
|---|---|---|---|
| 8 July, 1887 | 51 Vic. No. 8 (repealing 1886 Act). | 1 Oct., 1887 | The number of articles charged specific duties considerably reduced. *Ad Valorem* duties of 5 per cent. abolished. |
| | | 1 May, 1887 | Duties on Malt and Hops abolished. |
| | | 30 Mar., 1887 | Duties on Spirits and Spirituous Compounds increased. |
| | | 30 Mar., 1887 | New schedule of specific duties at lower rates. |
| 2 Mar., 1892 | 55 Vic. No. 16 (repealing 1887 Act). | 2 Dec., 1891 | The number of articles subject to specific duties increased. *Ad Valorem* duties of 10 and 15 per cent. imposed. |
| | | 1 Jan., 1893 | 10s. per ton duty imposed on Pig-iron. |
| | | 1 Mar., 1892 | Duty on Tea abolished. |
| 12 Dec., 1895 | 59 Vic. No. 18 (repealing 1892 Act). | 1 Jan., 1896 | Abolishes all duties previously levied, except those on Narcotics and Stimulants. Certain duties, viz., those on Sugar, Candles, Oils, Biscuits, Confectionery, Fruit, Jams and Jellies and Preserves, are gradually reduced over a period ranging from 1½ to 4½ years before being finally removed. |
| 17 Dec., 1898 | Act 32 of 1898 ..... | 3 Nov., 1898 | Duties imposed by 59 Vic. No. 18, on Sugar, Glucose, Molasses and Treacle, Biscuits, Confectionery, Fruits, Jams, Jellies, and Preserves, cease to be diminishing duties, and are retained, and a duty of one penny per pound placed on Tea, and two-pence per pound on Fruits—dried, candied, or prunes, exclusive of dates. |

Prior to 1884 the only excise duty in force was on locally-distilled spirits. In the year named, however, tobacco, cigars, and cigarettes manufactured in the state were added to the list; and in 1887 an excise tax on beer was imposed, while the duty on distilled spirits was increased from 12s. to 14s. per proof gallon. Further particulars regarding customs and excise duties will be found in the chapter dealing with Commerce.

On the 12th January, 1867, a convention was entered into between the states of New South Wales and Victoria, with the view of obviating the collection of customs duties on goods imported into the former from the latter by way of the Murray River. The understanding was for a period of five years, from the 1st February, 1867, and the authorities of Victoria undertook to make a yearly payment of £60,000 to the mother state, this amount being the estimated annual balance that in each year would be payable to New South Wales in respect of customs duties on goods imported into it by way of the Murray River after giving credit to Victoria for the duties payable on goods imported into that state from New South Wales. The net proceeds of all customs duties received by New South Wales on goods imported from South Australia by way of the Murray River, less the cost of collection—which was not to amount to more than 5 per cent. on the amount of duties actually received—were to be paid by New South Wales to Victoria

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On the 20th May, 1873, a similar convention was entered into by New South Wales and Victoria, dating from the 1st June, 1873, and involving an annual payment to New South Wales of the sum of £54,500, to be effective for a period of three years, with the proviso that either state could retire from the arrangement upon giving one month's notice thereof. Through misunderstanding arising between the states, Victoria withdrew from the agreement on the 31st January, 1874.

On the 6th June, 1873, a similar convention was entered into between New South Wales and South Australia, dating from the 16th June, 1873, by which South Australia contracted to pay the former the sum of £13,500 per annum, the agreement to be effective for a period of three years, with a similar understanding to that adopted with regard to Victoria. The convention was renewed for a further period of six months, from the 16th June, 1876, when another convention was signed for a period of one year, to date from 16th December, 1876, the payment to be at the rate of £35,000 per annum.

The changes in the customs and excise tariffs during the past thirteen years can be traced in the figures given in the subjoined table, which represent the net collections under each head. It will be noticed that the largest revenue from customs and excise duties was collected during 1892. Comparison of the amount collected in different years is of no value, since during the period the tariff has been altered three times, twice in the most radical manner:—

| Year. | Net Revenue from— | | | Per Inhabitant. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Customs. | Excise. | Total. | Customs. | | | Excise. | | | Total. | | |
| | £ | £ | £ | £ | s. | d. | £ | s. | d. | £ | s. | d. |
| 1888 | 1,834,860 | 258,415 | 2,093,275 | 1 | 15 | 5 | 0 | 5 | 0 | 2 | 0 | 5 |
| 1889 | 1,868,652 | 260,136 | 2,128,788 | 1 | 15 | 1 | 0 | 4 | 11 | 2 | 0 | 0 |
| 1890 | 1,857,843 | 264,447 | 2,122,290 | 1 | 13 | 9 | 0 | 4 | 10 | 1 | 18 | 7 |
| 1891 | 2,132,414 | 287,026 | 2,419,440 | 1 | 17 | 4 | 0 | 5 | 0 | 2 | 2 | 4 |
| 1892 | 2,593,839 | 288,094 | 2,881,933 | 2 | 4 | 0 | 0 | 4 | 11 | 2 | 8 | 11 |
| 1893 | 2,076,817 | 264,167 | 2,340,984 | 1 | 14 | 6 | 0 | 4 | 5 | 1 | 18 | 11 |
| 1894 | 2,015,695 | 256,664 | 2,272,359 | 1 | 12 | 10 | 0 | 4 | 2 | 1 | 17 | 0 |
| *1895 | 933,755 | 128,247 | 1,062,002 | ‡0 | 15 | 1 | ‡0 | 2 | 1 | ‡0 | 17 | 2 |
| †1896 | 1,754,606 | 270,556 | 2,025,162 | 1 | 7 | 10 | 0 | 4 | 3 | 1 | 12 | 1 |
| †1897 | 1,254,677 | 276,287 | 1,530,964 | 0 | 19 | 8 | 0 | 4 | 4 | 1 | 4 | 0 |
| †1898 | 1,247,793 | 289,479 | 1,537,272 | 0 | 19 | 2 | 0 | 4 | 5 | 1 | 3 | 7 |
| †1899 | 1,293,769 | 315,090 | 1,608,859 | 0 | 19 | 7 | 0 | 4 | 9 | 1 | 4 | 4 |
| †1900 | 1,398,105 | 338,272 | 1,736,377 | 1 | 0 | 10 | 0 | 5 | 0 | 1 | 5 | 10 |
| §1900 | 754,580 | 184,756 | 939,336 | ‡0 | 11 | 1 | ‡0 | 2 | 8 | ‡0 | 13 | 9 |

* Six months ended 30th June. † Twelve months ended 30th June. ‡ Amount for six months.
§ Six months ended 31st December.

To afford a comparison between the amount of taxation per inhabitant for customs and excise in this state during the year ended 30th June, 1901, and previous years, it is essential that the net collections under

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each heading by the Commonwealth Government shall be taken into consideration. The net revenue derived from customs by the Commonwealth and State Governments during the year ended 30th June, 1901, amounted to £1,574,592, while that from excise was £383,752; the amount of taxation per inhabitant in respect of the former being £1 3s. 1d., and of the latter 5s. 7d., making a total of £1 8s. 8d.

The revenue from licenses exhibits little variation from year to year. The amount received during the year ended 30th June, 1901, distributed under the principal heads, was as follows:—

| Licenses. | Amount. | Licenses. | Amount. |
|---|---|---|---|
| | £ | | £ |
| Wholesale spirit dealers and brewers | 6,391 | Hawkers, pedlars, and pawnbrokers | 3,466 |
| To retail fermented and spirituous liquors, Colonial wine, cider, and perry | 94,723 | Gunpowder Act | 956 |
| | | Sale of tobacco and cigars | 2,801 |
| | | Metropolitan Traffic Act | 3,946 |
| Distillers and rectifiers | 111 | Other | 785 |
| Billiard and bagatelle | 6,567 | | |
| Auctioneers | 4,450 | Total £ | 124,196 |

The table does not include the revenue from licenses issued to fishermen, fishing-boats, bonded warehouses, and by the Mines Department.

In 1899 the Stamp Duties Act, 1898, was amended, the alterations being the adoption of a graduated scale of duties on the estates of deceased persons, classified as follows:—Where the value of the estate exceeds £1,000 and under £5,000, 2 per cent.; £5,000 and under £6,000, 3 per cent.; for each £1,000 over £6,000, up to £10,000, ¼ per cent.; for each £2,000 over £10,000, up to £40,000, ¼ per cent.; for each £4,000 over £40,000, up to £100,000, ⅛ per cent.; over £100,000, 10 per cent., after deducting all debts which may, in pursuance of the Stamp Duties Act, 1898, be deducted. In cases where the person dies intestate, leaving a widow and children, or children, the only persons entitled in distribution of the estate, or where the widow, or the widow and children, or children of a testator, are the only persons entitled under the will, or where the settlement, trust, disposition, &c., of the estate is for the sole benefit of the widow, or widow and children, or children of the settlor, the duty payable is one-half only of that indicated. In cases where, in conjunction with the widow and children, others benefit, the duty is calculated so as to charge one-half only of the duty upon the distributive share of the widow or upon the property devised for the benefit of the widow and children. The Bank Notes Act of 1893 provided for the increase of the annual composition duty on bank notes from 2 to 2½ per cent. on all notes issued within the state. As the Act mentioned lapsed in November, 1895, the composition charged since that date has been at the old rate.

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As already mentioned, the bulk of the Customs duties previously in force were abolished as from the 1st January, 1896, duties on stimulants and narcotics being alone permanently retained, while the duties on sugar, candles, oils, biscuits, confectionery, fruits, jams and jellies, and preserves were to be gradually reduced over a period ranging up to 4½ years before being finally removed. To meet the revenue thus given up, taxes on land and incomes were sanctioned by Parliament. The land tax is at the rate of 1d. in the £ on the unimproved value, with an exemption of £240 on all estates, and a special exemption in favour of municipal corporations and religious, educational, and other institutions of a like character. Where land is mortgaged the owner is also allowed to deduct from the tax a sum equal to 6d. in the £ on the interest paid on the mortgage. The income tax is levied on all incomes earned in the State but not directly derived from the ownership, use, or occupancy of land, whether improved or not, and is at the rate of 6d. in the £ on all incomes, subject to a general exemption of £200. The total amount of income tax collected during the year ending 30th June, 1901, was £205,304. The first collections under the land tax were made in October, 1896, and for the year ended 30th June, 1901, a sum of £288,369 was collected.

The subjoined table gives the gross and net amounts of taxation collected during the period from 1880 to 1901, and the alterations referred to in the various duties may be traced in the return presented :—

| Year. | Indirect. | | | Direct. | | | Gross Revenue from Taxation. | Re-funds. | Net Revenue from Taxation. |
|---|---|---|---|---|---|---|---|---|---|
| | Customs. | Excise. | Licenses. | Stamps. | Income Tax. | Land Tax. | | | |
| | £ | £ | £ | £ | £ | £ | £ | £ | £ |
| 1880 | 1,225,440 | 7,254 | 112,197 | 72,303 | .... | .... | 1,417,294 | 38,229 | 1,379,065 |
| 1881 | 1,458,676 | 3,705 | 115,964 | 192,503 | .... | .... | 1,770,848 | 31,424 | 1,739,424 |
| 1882 | 1,552,706 | 5,037 | 116,932 | 228,138 | .... | .... | 1,903,413 | 41,750 | 1,861,663 |
| 1883 | 1,646,857 | 12,193 | 117,683 | 214,975 | .... | .... | 1,891,708 | 39,971 | 1,851,737 |
| 1884 | 1,726,811 | 79,067 | 120,028 | 226,049 | .... | .... | 2,152,855 | 52,142 | 2,100,713 |
| 1885 | 1,759,955 | 116,497 | 122,695 | 253,504 | .... | .... | 2,252,651 | 46,222 | 2,206,429 |
| 1886 | 2,008,571 | 109,220 | 125,438 | 307,993 | .... | .... | 2,611,822 | 59,316 | 2,552,506 |
| 1887 | 2,011,947 | 204,420 | 126,432 | 321,749 | .... | .... | 2,664,548 | 81,062 | 2,583,486 |
| 1888 | 1,883,968 | 260,576 | 129,991 | 409,658 | .... | .... | 2,684,883 | 55,786 | 2,626,097 |
| 1889 | 1,905,883 | 261,571 | 130,296 | 379,519 | .... | .... | 2,677,169 | 42,167 | 2,635,002 |
| 1890 | 1,888,321 | 265,387 | 134,156 | 460,975 | .... | .... | 2,748,839 | 44,296 | 2,704,043 |
| 1891 | 2,168,965 | 288,198 | 135,103 | 326,778 | .... | .... | 2,916,344 | 41,316 | 2,875,028 |
| 1892 | 2,677,890 | 289,603 | 132,500 | 349,794 | .... | .... | 3,449,787 | 104,522 | 3,345,265 |
| 1893 | 2,127,645 | 265,554 | 129,044 | 311,723 | .... | .. . | 2,834,566 | 56,720 | 2,777,846 |
| 1894 | 2,065,830 | 258,122 | 124,677 | 297,062 | .... | . . | 2,745,700 | 57,007 | 2,688,693 |
| *1895 | 963,189 | 129,153 | 82,262 | 147,581 | .... | .... | 1,322,285 | 33,504 | 1,288,781 |
| †1896 | 1,825,219 | 271,826 | 123,109 | 318,304 | 27,658 | .... | 2,566,116 | 72,494 | 2,493,622 |
| †1897 | 1,280,715 | 277,137 | 121,339 | 332,345 | 305,316 | 141,022 | 2,458,074 | 61,662 | 2,396,412 |
| †1898 | 1,256,591 | 291,343 | 122,315 | 348,560 | 180,108 | 371,870 | 2,570,982 | 59,684 | 2,511,298 |
| †1899 | 1,305,097 | 316,709 | 121,760 | 361,887 | 182,221 | 272,028 | 2,559,702 | 44,471 | 2,515,231 |
| †1900 | 1,414,923 | 339,334 | 120,387 | 311,757 | 194,246 | 295,604 | 2,676,751 | 58,682 | 2,618,069 |
| †1901 | ‡762,388 | ‡185,304 | 124,196 | 426,957 | 222,453 | 292,188 | 2,013,486 | 32,601 | 1,980,885 |

* Six months ended 30th June. † Twelve onths ended 30th June.
‡ Six months ended 31st December, 1900.

On page 163 will be found the total collections from Customs and Excise by the Commonwealth and State Governments during the year ended 30th June, 1901.

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## Land Revenue.

In New South Wales, as well as in the other states of the group, the whole of the receipts from the sale and occupation of Crown lands are treated as public income. The proceeds from occupation, being rent, can with consistency be regarded as an item of revenue; but the treatment of the proceeds of auction, conditional purchase, and other classes of sales as ordinary revenue is open to grave objection.

The revenue derived from lands may be grouped under three main heads—(*a*) auction sales and other forms of unconditional sale; (*b*) conditional sales or lands disposed of under the system of deferred payments; (*c*) rents from pastoral, mining, and other classes of occupation. The first two sources have been amalgamated under the head of alienation; while the last is classed as occupation.

More than half the annual receipts from land are obtained from alienation, as will be seen from the following table, which gives in detail the revenue from 1899 to 1901, but as over 40 per cent. of the amounts shown as instalments and interest represents interest on balances of conditional purchases outstanding; to that extent the receipts from sales may be legitimately viewed as income :—

| Head of Revenue. | *1899. | *1900. | *1901. |
|---|---|---|---|
| *Alienation.* | | | |
| Sales, etc. :— | £ | £ | £ |
| Auction sales | 98,092 | 113,188 | 127,571 |
| Other | 10,868 | 14,641 | 7,475 |
| Total | 108,960 | 127,829 | 135,046 |
| Conditional Purchases :— | | | |
| Deposits and improvements | 38,129 | 42,006 | 63,794 |
| Instalments and interest | 886,621 | 908,876 | 864,964 |
| Interest (under Act of 1861) | 66,275 | 65,205 | 58,569 |
| Balances | 97,821 | 147,939 | 178,173 |
| Homestead Selections | 16,502 | 30,589 | 31,848 |
| Total | 1,105,348 | 1,194,615 | 1,197,288 |
| Total, Alienation | 1,214,308 | 1,322,444 | 1,332,334 |
| *Occupation.* | | | |
| Pastoral :— | | | |
| Pastoral leases | 242,219 | 222,887 | 149,763 |
| Conditional leases | 158,351 | 160,109 | 162,024 |
| Occupation licenses | 108,032 | 120,786 | 134,931 |
| Homestead leases | 51,669 | 57,400 | 49,064 |
| Annual and other leases | 94,947 | 124,219 | 127,270 |
| Quit rents | 298 | 464 | 632 |
| Total | 655,516 | 685,865 | 623,684 |

* Twelve months ending 30th June.

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| Head of Revenue. | *1899. | *1900. | *1901. |
|---|---|---|---|
| *Occupation*—continued. | | | |
| Mining :-- | £ | £ | £ |
| Mineral leases | 11,952 | 16,732 | 20,104 |
| Leases of auriferous lands | 18,016 | 34,638 | 9,507 |
| Miners' rights | 3,944 | 4,017 | 3,520 |
| Royalty on minerals | 9,822 | 15,300 | 17,635 |
| Other | 3,636 | 4,967 | 8,888 |
| Total | 47,370 | 75,654 | 59,654 |
| Total, Occupation | 702,886 | 761,519 | 683,338 |
| *Miscellaneous Land Receipts.* | | | |
| Survey fees | 34,892 | 33,255 | 36,884 |
| Rents, special objects | 21,024 | 25,352 | 17,675 |
| Timber licenses, royalty, etc. | 10,817 | 12,499 | 15,176 |
| Other | 25,583 | 25,897 | 37,956 |
| Total | 92,316 | 97,003 | 107,691 |
| Gross Revenue from Lands | 2,009,510 | 2,180,966 | 2,123,363 |
| Refunds | 56,436 | 64,890 | 56,818 |
| Net Revenue from Lands | 1,953,074 | 2,116,076 | 2,066,545 |

* Twelve months ending 30th June.

The annual income from public lands has varied considerably since the 1861 Act became law. In 1864 the minimum revenue was reached, the gross amount received being only £297,866, equivalent to 15s. 6d. per inhabitant; while in 1877, the year of maximum revenue, the gross receipts amounted to £3,236,277, or £5 2s. 11d. per inhabitant. Prior to the passing of the 1884 Act the whole area of Crown lands was available for free selection, including the areas held under pastoral leases. The Act mentioned, however, improved the condition of the pastoralist by granting him fixity of tenure of one half of his run for a term of years, the leasehold half being exempt from conditional purchase during his tenure; but the leases were appraised at a higher rent, which considerably increased the revenue from this source in the following years. In 1890 an Act was passed under which the rents of Crown leases, as appraised in 1884, were determined anew; and in cases in which the new appraisement was less than the previous one, the Government refunded the amount which had been overpaid, with interest at 5 per cent. The first refunds under the Act were made during 1892, in which year the amount, including interest, was £128,259, while the corresponding amount for 1893 was £392, and for 1894—the last year in which a refund was made—only £32.

Prior to the passing of the 1884 Act the only forms of lease granted were pastoral, annual, special, and pre-emptive. Under the Act mentioned, provision was made for the continuance of each of these forms of

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lease except the pre-emptive, which was abolished; and occupation licenses, and conditional and homestead leases, were established. The supplementary Act of 1889 provided for five additional forms of lease, which were as follow:—Scrub, snowland, artesian well, residential, and inferior land. Under the Land Act of 1895 three new forms have been provided for.

The gross revenue derived from alienation and occupation, and the gross and net land revenue, from 1880 to 1901, were as follow:—

| Year. | Alienation. | | Occupation. | | Gross Revenue from Lands. | Refunds. | Net Revenue from Lands. |
|---|---|---|---|---|---|---|---|
| | Sales, etc. | Conditional Purchases. ‡ | Pastoral. § | Mining, etc. ‖ | | | |
| | £ | £ | £ | £ | £ | £ | £ |
| 1880 | 731,353 | 650,674 | 237,660 | 26,749 | 1,646,436 | 41,109 | 1,605,327 |
| 1881 | 1,415,460 | 1,067,879 | 309,170 | 28,480 | 2,820,989 | 96,648 | 2,724,341 |
| 1882 | 1,306,300 | 1,148,741 | 430,417 | 28,936 | 2,914,394 | 116,924 | 2,797,470 |
| 1883 | 338,234 | 931,235 | 358,957 | 27,643 | 1,656,069 | 162,492 | 1,493,577 |
| 1884 | 411,202 | 952,281 | 344,096 | 45,765 | 1,753,344 | 174,323 | 1,579,021 |
| 1885 | 535,508 | 778,849 | 517,156 | 44,939 | 1,876,452 | 106,836 | 1,769,616 |
| 1886 | 375,458 | 830,965 | 391,749 | 45,846 | 1,644,018 | 100,060 | 1,543,958 |
| 1887 | 349,585 | 872,192 | 1,100,423 | 56,795 | 2,378,995 | 66,023 | 2,312,972 |
| 1888 | 316,034 | 896,249 | 941,521 | 114,449 | 2,268,253 | 57,615 | 2,210,638 |
| 1889 | 214,691 | 934,480 | 917,491 | 70,901 | 2,137,563 | 87,138 | 2,050,425 |
| 1890 | 225,387 | 1,153,377 | 785,116 | 79,159 | 2,243,039 | 84,394 | 2,158,645 |
| 1891 | 191,696 | 1,154,979 | 843,960 | 71,001 | 2,266,636 | 149,633 | 2,117,003 |
| 1892 | 224,164 | 1,015,175 | 915,378 | 59,345 | 2,214,062 | 266,463 | 1,947,599 |
| 1893 | 252,782 | 1,044,710 | 849,652 | 59,123 | 2,206,267 | 91,082 | 2,115,185 |
| 1894 | 234,408 | 1,052,198 | 789,278 | 49,291 | 2,125,175 | 46,424 | 2,078,751 |
| *1895 | 36,378 | 852,823 | 139,219 | 24,932 | 1,053,352 | 15,669 | 1,037,683 |
| †1896 | 67,896 | 1,093,138 | 800,921 | 55,781 | 2,017,736 | 41,496 | 1,976,240 |
| †1897 | 68,599 | 1,082,516 | 748,779 | 53,535 | 1,953,429 | 54,595 | 1,898,834 |
| †1898 | 99,392 | 1,150,060 | 725,279 | 56,870 | 2,031,601 | 54,785 | 1,976,816 |
| †1899 | 108,960 | 1,140,240 | 702,123 | 58,187 | 2,009,510 | 56,436 | 1,953,074 |
| †1900 | 127,829 | 1,227,870 | 737,114 | 88,153 | 2,180,966 | 64,890 | 2,116,076 |
| †1901 | 135,046 | 1,234,172 | 679,315 | 74,830 | 2,123,363 | 56,818 | 2,066,545 |

* Six months ended 30th June. † Twelve months ended 30th June. ‡ Includes Survey Fees. § Includes all Miscellaneous Receipts except Survey Fees and Timber Licenses. ‖ Includes Timber Licenses.

The land policy of the state, though largely connected with its finances, will be more properly discussed in the part of this work dealing with land settlement. It may here be sufficient to say that the large revenue obtained from the sale of Crown lands during the years preceding 1883 was not due to the demand created by the normal progress of settlement, but was the outcome of an unhealthy rivalry between the two principal classes of settlers—the pastoral tenants and the free selectors. The estate of the country was being parted with without any conditions as to improvements or settlement; and as the great object of land sales was not so much to obtain revenue as to promote settlement, it was decided to sell by auction only a limited area (200,000 acres) during any one year. To this determination is to be attributed the falling off in the revenue under the head of sales for 1883 and all subsequent years.

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## Receipts for Services Rendered.

Receipts from the railways and tramways, water supply and sewerage, and post and telegraphs constitute the bulk of the revenue from services, the balance under this head being made up chiefly of dues and fees of various kinds. The receipts from posts and telegraphs for the year 1901, as shown in the sub-joined table, are for a period of eight months only, the control of this department having been transferred to the Commonwealth Government on the 1st March, 1901.

The total revenue has considerably increased of late years, and so also has the expenditure, the figures shown being not wholly an index of progress. The only services which can be considered as self-supporting—that is to say, yielding sufficient revenue to cover working expenses and interest on capital debt—are the railways, tramways, the metropolitan water supply and sewerage, and the Hunter district water supply, the first mentioned showing a surplus for the year 1896-7 after an interval of fifteen years, and again during the financial year ended 30th June, 1901. The gross receipts under the head of each service during the period 1899 to 1901, were as follow:—

| Service. | *1899. | *1900. | *1901. |
|---|---|---|---|
| | £ | £ | £ |
| Railways | 3,219,374 | 3,231,357 | 3,607,920 |
| Tramways | 349,284 | 409,093 | 550,096 |
| Post and Telegraphs— | | | |
| Postage | 533,130 | 551,611 | †379,362 |
| Electric Telegraphs | 159,837 | 177,664 | †124,002 |
| Telephones | 56,319 | 62,606 | †56,740 |
| Commission on money orders, etc. | 25,816 | 27,579 | †20,435 |
| Water Supply and Sewerage— | | | |
| Metropolitan—Water Supply | 190,315 | 203,466 | 203,495 |
| Sewerage | 104,044 | 116,681 | 124,103 |
| Hunter District Water Supply | 27,885 | 30,750 | 27,843 |
| Public school fees | 75,315 | 80,274 | 80,345 |
| Pilotage, harbour and light rates, and fees | 51,667 | 53,523 | 75,430 |
| Mint receipts | 13,875 | 15,999 | 19,954 |
| Miscellaneous services | 126,412 | 129,174 | 131,018 |
| Gross revenue from Services | 4,933,273 | 5,089,777 | 5,400,743 |
| Refunds | 76,087 | 97,256 | 83,911 |
| Net revenue from Services | 4,857,186 | 4,992,521 | 5,316,832 |

* Twelve months ended 30th June. † For eight months ended 28th February, 1901, only.

Taking the Commonwealth collections in connection with posts and telegraphs into consideration, the gross revenue received by the Federal and State Governments from that source during the year ended 30th June, 1901, within the State, amounted to £862,019, made up as follows:—Postage, £561,670; Electric Telegraphs, £191,296; Telephones, £79,066; and commissions on money orders, etc., £29,987.

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The gross revenue derived annually from each of the principal services, and the net revenue from all sources, from 1880 to 1901, were as shown in the following statement :—

| Year. | Railways and Tramways. | Post and Telegraphs. | Water Supply and Sewerage (Metropolitan and Hunter). | Other Services. | Gross Revenue from Services. | Refunds. | Net Revenue from Services. |
|---|---|---|---|---|---|---|---|
| | £ | £ | £ | £ | £ | £ | £ |
| 1880 | 1,189,564 | 286,134 | ..... | 129,758 | 1,605,456 | 8,447 | 1,597,009 |
| 1881 | 1,459,684 | 330,414 | ... .. | 168,755 | 1,958,853 | 14,743 | 1,944,110 |
| 1882 | 1,828,094 | 358,525 | ..... | 192,624 | 2,379,243 | 15,462 | 2,363,781 |
| 1883 | 2,081,128 | 403,794 | ..... | 200,972 | 2,685,894 | 17,045 | 2,668,849 |
| 1884 | 2,302,013 | 442,964 | ..... | 218,092 | 2,963,069 | 32,368 | 2,930,701 |
| 1885 | 2,492,691 | 472,564 | ..... | 224,391 | 3,189,646 | 39,648 | 3,149,998 |
| 1886 | 2,389,062 | 486,210 | ..... | 234,671 | 3,109,943 | 42,655 | 3,067,288 |
| 1887 | 2,510,335 | 524,298 | ..... | 230,242 | 3,264,875 | 44,138 | 3,220,737 |
| 1888 | 2,759,280 | 562,909 | 90,089 | 261,276 | 3,673,554 | 53,312 | 3,620,242 |
| 1889 | 2,875,135 | 597,988 | 147,071 | 318,884 | 3,939,078 | 55,630 | 3,883,448 |
| 1890 | 3,013,921 | 629,894 | 232,519 | 310,765 | 4,187,099 | 48,407 | 4,138,692 |
| 1891 | 3,439,283 | 648,553 | 245,821 | 287,198 | 4,620,855 | 57,422 | 4,563,433 |
| 1892 | 3,416,496 | 650,635 | 255,641 | 281,841 | 4,604,613 | 58,018 | 4,546,595 |
| 1893 | 3,253,272 | 643,849 | 275,954 | 257,267 | 4,430,342 | 50,925 | 4,379,417 |
| 1894 | 3,148,720 | 626,864 | 275,835 | 248,451 | 4,299,870 | 48,204 | 4,251,666 |
| *1895 | 1,454,973 | 316,888 | 135,989 | 116,739 | 2,024,589 | 27,561 | 1,997,028 |
| †1896 | 3,156,527 | 676,668 | 270,376 | 267,670 | 4,371,241 | 55,571 | 4,315,670 |
| †1897 | 3,367,552 | 706,120 | 281,511 | 260,885 | 4,616,068 | 53,527 | 4,562,541 |
| †1898 | 3,368,921 | 734,759 | 293,929 | 257,223 | 4,654,832 | 44,286 | 4,610,546 |
| †1899 | 3,568,658 | 775,102 | 322,244 | 267,269 | 4,933,273 | 76,087 | 4,857,186 |
| †1900 | 3,640,450 | 819,460 | 350,897 | 278,970 | 5,089,777 | 97,256 | 4,992,521 |
| †1901 | 4,158,016 | 580,539 | 355,441 | 306,747 | 5,409,743 | 83,911 | 5,316,832 |

* Six months ended 30th June. † Twelve months ended 30th June.

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The net revenue just given should be read with the rates per inhabitant for the same years, which will be found on page 805. The income derived by the Government of the country from services has, with little interruption, been steadily increasing; this, however, is only what would naturally be expected in a growing community, but it is satisfactory to be able to record that the income, compared with the population, has also been fairly well sustained, the check since 1892 being accounted for by the general depression. It will be seen from the table on page 805 that notwithstanding the transfer of the post and telegraph department to Federal control on the 1st March, 1901, the rate per head in 1900-1901 was £3 17s. 11d.; in 1888, £3 9s. 11d.; and in 1880, £2 3s. 10d. The increase in the return from services is undoubtedly largely due to the construction of railways, from which three-fourths of such revenue are derived. Compared with the population, the value of the production of the state is enormous; but as much of this production is due to the largeness of the territory, and not directly to the labours of those who occupy it, its value will, under present conditions, cease to increase at the same rate as does the population; and, moreover, as the revenue from services naturally depends upon the amount of production, the rate per inhabitant will not only cease to increase, but will ultimately decline.

With the exception of 84½ miles of private railways, and 6¾ miles of private tramways, the services under these heads are those of state administration. According to a statement in the Auditor-General's Report for 1891, the Railway service yielded a small net profit, after all expenses had been met, in 1881 and 1882. Since that time, however, the railways have not in reality yielded a profit until 1898–9. A proper comparison between earnings and expenditure can only be obtained by taking into consideration the fact that the average price obtained for the loans of the state was 96·59 per £100 of stock; and as a consequence, while the actual earnings of the railways for the last year cannot be taken at more than 3·81 per cent., the average interest payable, having regard to the matter indicated, is 3·61 per cent.

It will be noticed that during 1900-1901 the revenue from both services increased; but as the expenditure also shows an increase, the gain to the country was not so great as the figures would appear to show. The tramways in 1888 paid only 1·98 per cent.; in 1892 and 1893 the net profit equalled 5·28 and 5·51 per cent. respectively; while in 1894 it declined to 4·07 per cent., and for the year ended June, 1901, to 4·06 per cent. The questions of railway and tramway earnings and expenditure are dealt with at length in the chapter on Internal Communication.

The collections under the head of water supply and sewerage include the returns of the Boards operating in the metropolitan area and in the Hunter River district. These Boards form part of the local government scheme, and it is an open question whether the receipts and expenditure connected with them should be included in the general



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account. The loans from which the works have been constructed, however, form part of the public debt; and the interest payable is, therefore, rightly included as an item of the general accounts.

The Metropolitan Board was established in 1888, and the Hunter District Board in 1892. The operations of the Boards are more fully dealt with in the chapter dealing with Local Government.

The receipts from the Post, Telegraph, and Money Order services have increased year by year, but so also has the expenditure. The total receipts for the year ended December, 1900, according to the departmental returns, were £1,017,050; and the expenditure was £919,913, showing a surplus on the year's transactions of £97,137. If the interest payable on the cost of buildings, £33,830, the interest on the cost of construction of telegraph lines, £39,642, and the expenditure from votes under the control of other Ministers, viz., £22,807 be taken into consideration, the total profit during 1900 will be found to amount to £858.

These services have been, as far as possible, conducted on commercial principles; nevertheless the desire of the Government to extend the facilities of both the post and the telegraph to every part of the state has led to an expenditure which has in each year, except the last, been in excess of the receipts.

The balance of the revenue collected under the head of services consists of fees of office, public school fees, pilotage and harbour dues, and other items. The revenue derived from these services, however, is merely nominal, as the cost of the work performed in nearly every case far exceeds the receipts. The gross amount received under each head during the year ended 30th June, 1901, was :—

| | £ |
|---|---|
| Fees of office | 124,050 |
| Public school fees | 80,345 |
| Pilotage and harbour dues | 75,430 |
| Other fees | 26,922 |
| Total | £306,747 |

## General Miscellaneous Receipts.

All items which cannot rightly be placed under one of the three great classes are grouped under the heading of "General Miscellaneous Receipts," the chief of which are "Rents, exclusive of land," "Forfeitures," "Balances, transfers, and repayments," and similar accounts. The gross amount received under each of the main sub-heads, and the gross and

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net revenue received under the general head, for 1880 and subsequent years, are shown in the following statement:—

| Year. | Rents, exclusive of Land. | Forfeitures. | Balances, Transfers, and Repayments. | Other Miscellaneous Receipts. | Gross Revenue from Miscellaneous Receipts. | Refunds. | Net Revenue from General Miscellaneous Receipts. |
|---|---|---|---|---|---|---|---|
| | £ | £ | £ | £ | £ | £ | £ |
| 1880 | 37,337 | 997 | 55,048 | 141,662 | 235,044 | 10,056 | 224,988 |
| 1881 | 53,785 | 638 | 19,588 | 83,262 | 157,273 | 14,014 | 143,259 |
| 1882 | 55,476 | 914 | 60,586 | 96,711 | 213,687 | 18,015 | 195,672 |
| 1883 | 45,781 | 636 | 64,686 | 125,567 | 236,670 | 24,212 | 212,458 |
| 1884 | 53,185 | 918 | 48,477 | 145,744 | 248,324 | 21,980 | 226,344 |
| 1885 | 51,040 | 1,042 | 68,660 | 147,877 | 268,619 | 14,111 | 254,508 |
| 1886 | 49,228 | 833 | 60,180 | 117,026 | 227,267 | 16,204 | 211,063 |
| 1887 | 49,498 | 963 | 61,427 | 162,483 | 274,391 | 14,631 | 259,760 |
| 1888 | 62,194 | 1,043 | 53,016 | 146,389 | 262,642 | 5,435 | 257,207 |
| 1889 | 64,336 | 556 | 110,839 | 137,400 | 313,131 | 6,276 | 306,855 |
| 1890 | 52,741 | 1,035 | 68,090 | 194,241 | 316,107 | 11,796 | 304,311 |
| 1891 | 67,622 | 1,557 | 44,481 | 118,690 | 232,350 | 14,482 | 217,868 |
| 1892 | 96,021 | 2,238 | 36,502 | 97,881 | 232,642 | 5,638 | 227,004 |
| 1893 | 84,819 | 2,892 | 54,669 | 93,179 | 235,559 | 8,097 | 227,462 |
| 1894 | 78,215 | 1,747 | 87,382 | 169,839 | 337,183 | 6,242 | 330,941 |
| *1895 | 40,899 | 1,119 | 35,743 | 465,860 | 543,621 | 3,022 | 540,599 |
| †1896 | 86,193 | 5,249 | 116,263 | 107,290 | 314,995 | 9,159 | 305,836 |
| †1897 | 88,471 | 3,660 | 65,799 | 102,858 | 260,788 | 9,322 | 251,466 |
| †1898 | 90,029 | 2,121 | 29,952 | 102,575 | 224,677 | 18,453 | 206,224 |
| †1899 | 93,394 | 1,189 | 32,131 | 124,986 | 251,700 | 3,776 | 247,924 |
| †1900 | 80,739 | 1,606 | 44,112 | 129,980 | 256,437 | 9,367 | 247,070 |
| †1901 | 227,774 | 688 | 57,625 | 981,864 | 1,267,951 | 19,791 | ‡1,248,160 |

* Six months ended 30th June. † Twelve months ended 30th June.
‡ Includes £883,273, balance of revenue collected within the State by the Commonwealth and returned to the State Government.

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## Heads of Expenditure.

The following table gives the net expenditure under the more important heads for each financial year since 1880. The amounts given herewith, as well as those shown on page 804, are exclusive of transactions under "Advances made," which, as mentioned previously, are not items of expenditure in the proper sense of the term :—

| Year. | Net Expenditure on— | | | | | | |
|---|---|---|---|---|---|---|---|
| | Railways and Tramways. | Post and Telegraphs | Water Supply and Sewerage (Metropolitan and Hunter). | Public Instruction. | Interest on Public Debt (Funded and Unfunded). | Other Services. | Total Net Expenditure. |
| | £ | £ | £ | £ | £ | £ | £ |
| 1880 | 790,686 | 387,147 | ..... | 400,740 | 685,094 | 3,196,648 | 5,460,315 |
| 1881 | 730,181 | 406,473 | ..... | 587,578 | 685,639 | 3,215,878 | 5,625,749 |
| 1882 | 1,015,803 | 429,930 | ..... | 623,701 | 766,398 | 3,319,827 | 6,155,659 |
| 1883 | 1,425,800 | 489,013 | ..... | 737,969 | 834,145 | 4,063,441 | 7,550,368 |
| 1884 | 1,558,955 | 525,001 | ..... | 827,290 | 1,012,322 | 4,206,629 | 8,130,197 |
| 1885 | 1,689,917 | 557,096 | ..... | 762,599 | 1,262,684 | 4,082,824 | 8,355,120 |
| 1886 | 1,670,170 | 591,058 | ..... | 751,021 | 1,549,679 | 4,297,349 | 8,859,277 |
| 1887 | 1,658,724 | 613,354 | ..... | 728,835 | 1,643,522 | 4,345,482 | 8,989,917 |
| 1888 | 1,781,876 | 593,437 | 16,536 | 683,883 | 1,702,595 | 3,713,639 | 8,491,966 |
| 1889 | 1,768,474 | 604,370 | 38,168 | 707,211 | 1,760,274 | 4,122,947 | 9,001,444 |
| 1890 | 2,013,451 | 625,015 | 61,282 | 727,910 | 1,857,656 | 4,100,355 | 9,385,669 |
| 1891 | 2,363,032 | 694,732 | 69,562 | 770,813 | 1,874,616 | 4,443,065 | 10,215,820 |
| 1892 | 2,150,220 | 759,017 | 80,787 | 857,243 | 1,714,627 | 4,541,378 | 10,103,272 |
| 1893 | 1,891,049 | 774,495 | 83,931 | 803,020 | 2,425,987 | 4,103,716 | 10,082,198 |
| 1894 | 1,741,821 | 750,196 | 79,292 | 742,411 | 2,255,244 | 3,760,389 | 9,329,353 |
| *1895 | 881,520 | 394,298 | 42,201 | 391,339 | 1,133,566 | 2,001,673 | 4,844,597 |
| †1896 | 1,877,543 | 745,343 | 75,800 | 763,664 | 2,262,996 | 3,973,545 | 9,698,891 |
| †1897 | 1,827,150 | 706,144 | 80,526 | 716,539 | 2,267,861 | 3,718,400 | 9,316,620 |
| †1898 | 1,865,776 | 701,054 | 81,322 | 717,243 | 2,255,690 | 3,678,326 | 9,299,411 |
| †1899 | 1,983,987 | 695,262 | 90,097 | 749,865 | 2,292,955 | 3,750,573 | 9,562,739 |
| †1900 | 2,102,793 | 726,569 | 89,627 | 769,572 | 2,310,271 | 4,087,354 | 10,086,186 |
| †1901 | 2,474,376 | 527,254 | 98,921 | 785,279 | 2,346,852 | 4,497,059 | 10,729,741 |

* Six months ended 30th June. † Twelve months ended 30th June.

The differences between the figures contained in the foregoing table and those previously published are due to the treatment of charges on collections as expenditure and not refunds; the inclusion of £21,000 paid in 1892 for redemption of Treasury Bills, and £19,754 transferred to the Trust Funds in 1893, which hitherto were not treated as disbursements; and the debiting the Treasurer's Advance Account and the Expenditure Suspense Account to the year in which they were expended, and not to the year in which the votes were authorised and the amounts adjusted, as explained in an earlier part of this chapter.

It will be noticed that the annual expenditure for the services named has, generally speaking, increased; the revenue has likewise grown, but not in a corresponding ratio. To establish the relative position of each, it will be necessary to place the accounts side by side. The figures given for the public debt apply only to interest expenditure; the amount paid for redemptions, which in point of volume is

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unimportant, and the expenditure incurred in the management and inscription of stock in London, including the payment of dividends, are included under the head of "Other Services." The falling-off in the expenses of the public debt in 1892 was due to the non-inclusion of the sum of £288,750 paid in London during September of that year. The advice of this was received by the Treasury too late to admit of the amount being charged to the year mentioned, and the expenditure for 1893 was in consequence correspondingly increased.

### Expenses of General Government.

In the figures already given of the revenue of the state, it will have been noticed that the amount received on account of services rendered—that is, the earnings of the railways, the tramways, the water supply, and other departments—is included in the general revenue. This is almost a matter of necessity so long as the expenditure includes interest on the public debt incurred to promote these services. As a consequence of this system, the annual cost of maintaining the services referred to is also included in the expenditure. The figures given on page 820 do not admit of a ready distinction being made between these two kinds of expenditure; but as the information is necessary for the right understanding of the public accounts, the following statement has been compiled. It shows the progress of expenditure as classified under two headings—ordinary expenditure of general government, including interest on capital liability of services connected therewith; and expenditure on services practically outside the administration of general government, such as railways, tramways, the Metropolitan and Hunter District water supply and sewerage, and the interest on capital liability of each of the services enumerated. The figures for the period from 1887 to 1901, and the rates per inhabitant, are as follow :—

| Year. | Net Expenditure. | | | |
|---|---|---|---|---|
| | On General Government. | | On Services practically outside General Government. | |
| | Total. | Per Inhabitant. | Total. | Per Inhabitant. |
| | £ | £ s. d. | £ | £ s. d. |
| 1887 | 5,959,489 | 5 18 7 | 3,036,898 | 3 0 5 |
| 1888 | 5,330,993 | 5 2 11 | 3,207,549 | 3 1 11 |
| 1889 | 5,128,288 | 4 16 2 | 3,867,463 | 3 12 6 |
| 1890 | 5,810,076 | 5 5 6 | 3,550,916 | 3 4 5 |
| 1891 | 6,020,405 | 5 5 5 | 4,195,415 | 3 13 6 |
| 1892 | 6,170,757 | 5 4 10 | 3,932,515 | 3 6 10 |
| 1893 | 5,932,463 | 4 18 7 | 4,149,735 | 3 9 0 |
| 1894 | 5,447,919 | 4 8 10 | 3,881,434 | 3 3 3 |
| *1895 | 2,965,490 | ‡2 7 4 | 1,879,107 | ‡1 10 1 |
| †1896 | 5,741,307 | 4 10 11 | 3,957,584 | 3 2 9 |
| †1897 | 5,179,662 | 4 1 0 | 4,140,162 | 3 4 9 |
| †1898 | 5,216,893 | 4 0 1 | 4,082,518 | 3 2 9 |
| †1899 | 5,419,208 | 4 1 10 | 4,143,531 | 3 2 8 |
| †1900 | 5,778,502 | 4 6 0 | 4,307,684 | 3 4 1 |
| †1901 | 6,071,430 | 4 9 0 | 4,658,253 | 3 8 3 |

* Six months ended 30th June. † Twelve months ended 30th June. ‡ Amount for six months

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Under the heading of the expenses of general government are included civil, military, and legal expenditure, and the cost of the post and telegraph services, education, and such public works as are constructed out of the ordinary revenue, as also the interest payable where the proceeds of loans have been used to defray the cost of their construction. The expenditure per head of population on account of some of these services, viz., postal and telegraphic, educational, and others of less importance, has either been stationary or declining.

The general tendency in progressive communities is for the cost of government per inhabitant to decline as population increases; the operation of this law is traceable in the figures just given. During the period embraced in the statement, the cost of government has varied between £4 0s. 1d. and £5 18s. 7d., the years with the least expenditure per inhabitant being the last eight, and that with the highest, 1887. The position of the state as the constructor of small local works prevents that decrease in the expenses of general government which is so desirable, and the absence of a law placing the responsibility upon the districts concerned has necessitated the expenditure of large sums upon works only locally important and not strictly chargeable to the public revenue.

### Old-Age Pensions.

The Old-Age Pensions Act of 1900 was assented to on the 11th December, but the first payments of pension-claims were not made till the latter half of 1901. A successful applicant for a pension must ave shown—

(1.) That he is at least 65 years of age.

(2.) That he is residing in the State on the date when he makes good his claim to the pension.

(3.) That he has been residing in the State for not less than twenty-five years immediately before that date.

(An occasional absence from the State will not affect his claim, unless the total period of his absences amounts to more than two years. In the case of a seafaring man, his claim will not be affected by his absence while serving aboard a vessel trading to and from the State, if he can prove that during such absence his family or home was in the State.)

(4.) That, during the twelve years immediately before the date when he makes good his claim, he has not been imprisoned for four months, or on four occasions, for any offence punishable by imprisonment for twelve months or more.

(5.) That during twenty-five years immediately preceding the date of his claim he has not been imprisoned for a term of five years, with or without hard labour.

(6.) That, if he is married, he has not at any time, for a period of six months or more, deserted his wife, or without just cause

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has failed to provide her with sufficient means of support, or has neglected to look after such of his children as were under the age of 14 years.

(7.) That he is of good character, and is leading, and has been leading for five years at least, a sober and respectable life.

(8.) That his income does not amount to £52 a year or more.

(9.) That he has not deprived himself of income or property in order to qualify for a pension.

(10.) That, if a naturalised subject, he has been naturalised for at least ten years before the date on which he claims his pension. No alien, Australian aboriginal, or Asiatic is entitled to a pension.

A person of 60 years of age or more, and yet under the age of 65, may obtain a pension if he is unable, through bodily ailment or defect, to earn his own living, and if he, in all other respects, fulfils the conditions stated above.

When the claimant has satisfied himself that his claim is a proper one, and can be established, he should send the form of pension-claim, properly filled up and with the declaration upon it witnessed, as required in the form, to the Clerk of the nearest Court of Petty Sessions, or to the Deputy-Registrar for Old-Age Pensions for the district.

The claim will be examined by the District Board for Old-Age Pensions, and the Board may require a claimant to appear before them personally, or to produce further evidence with regard to his claim. If he receives an intimation from the Deputy-Registrar that he is required to appear before the Board or furnish additional evidence, he should be prepared to satisfy the Board in regard to his claim. The Board may authorise some officer to make inquiries, and in that case he should give the officer any information he can.

When a pension-claim is admitted by the Board, the Deputy-Registrar will issue a pension-certificate to the claimant.

If the Board does not grant the pension, the claimant may appeal against it, but he must do so within one month after the Board's decision on his claim has been made known to him. He can get the necessary form for his appeal from the Deputy-Registrar of the district on applying either in person or by post. The address of the Deputy-Registrar will be on the notification of the Board's decision. After properly filling the form, the claimant should send it to the nearest Clerk of Petty Sessions. He will be informed of the result of his appeal in due course.

The fact of a man having been granted a pension will not prevent his wife obtaining one also if she is 65 years of age and otherwise eligible. Where the pensioner has an income of over 10s. a week apart from his pension, there will be a deduction from his pension according to a scale fixed by the Act. If the pensioner has property over the value of £390 a deduction will also be made on that account.

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Since the pension is for the personal support of the pensioner, it cannot be transferred to any other person in any circumstances, or attached for the purpose of meeting the pensioner's debts.

Six months' imprisonment is the penalty which may be imposed upon any person who tries by false statements to obtain a pension to which he has no claim, or one of a larger amount than he is entitled to.

No pension can be given to any person who is kept by a charitable institution, or who receives relief from one, unless such a person suffers from some bodily defect or ailment which prevents him from taking care of himself. In such a case the reasonable cost of his keep or of the relief he receives will be paid out of his pension.

A form of pension-claim may be filled in and sent in the usual way for examination by the Board at any time within two years before the date at which the claimant alleges that his pension should commence; but no pension-certificate will be given, and no payments made, until the claimant has fulfilled all the conditions before mentioned.

The number of claims received under the Old-Age Pensions Act during the six months of 1901 in which it was in operation was 28,709, and of these 22,113 were allowed by the district boards adjudicating on the claims. During the same period the number of deaths of pensioners was 543, so that the actual number of pensions on December 31st was 21,570. The total sum payable in respect of pensions on the same date was £500,334, so that the average amount of each pension granted was £23 4s. per annum, or 8s. 11d. per week. The pension list is growing rapidly, as a large number of persons eligible delayed making claims; and on the 31st March, 1902, it is estimated that 22,500 pensions were payable, involving a sum of about £521,900.

## Special Suspense Accounts.

The Centennial Park and the General Post Office New Street Resumption Accounts have been made Special Suspense Accounts. The former was first operated upon during 1887, and continued part of the Consolidated Revenue Fund Account till 1894, when it was placed in suspense; and the latter was opened in 1890, and formed part of the same account till 1892, when it was similarly dealt with. The Centennial Park Account was established under the Centenary Celebration Act of 1887, and the other Account under an Act passed in 1889, which was amended in 1892. The first-mentioned Act provided for resumption of a large area of land close to Sydney, 640 acres of which were to be set apart for the Centennial Park, and the residue to be sold and the proceeds of the sale used in reducing the expenditure incurred for the Park. The latter Act provided for the resumption of certain areas for the widening and general improvement of the street facing the General Post Office. The balance of the land not required for public purposes was to be sold, and the proceeds of sales set against the expenditure incurred for resumptions and alterations.

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The receipts indicated in the subjoined table in connection with the Centennial Park Account relate to fees received for agistment and the sale of material, no sales of land having been effected; under the other Account a portion of the land has been sold, and the balance, which occupies a very choice position, is being held pending a more favourable time for disposal. The large overdraft to each account was temporarily met from the trust funds. The Treasury Bills Deficiency Act of 1900 (68 of 1900) provides for the issue of Treasury Bills to liquidate, among other purposes, the outstanding liability under the General Post Office New Street Resumption Account and Centennial Park Account. Provision is made for the net proceeds of sales after the commencement of the Act to be carried to the credit of a Special Trust Account with a view to the redemption of the bills covering the Deficiency Debts. These bills had not been floated at the 31st October, 1901. The position of each account on the 30th June, 1901, was as follows :—

| Year. | Centennial Park Account. | | General Post Office New Street Resumption Account. | |
|---|---|---|---|---|
| | Receipts. | Payments. | Receipts. | Payments. |
| | £ | £ | £ | £ |
| 1887 | ..... | 20,285 | ..... | ..... |
| 1888 | 2 | 66,787 | ..... | ..... |
| 1889 | 2 | 56,915 | ..... | ..... |
| 1890 | ..... ..... | 26,250 | 5,812 | 159,648 |
| 1891 | 479 | 28,040 | 24 | 177,730 |
| 1892 | 12 | 1,629 | 27,216 | 87,815 |
| 1893 | ..... | ..... | 102,523 | 29,947 |
| 1894 | ..... | ..... | ..... | 16,047 |
| *1895 | ..... | ..... | ..... | 132,929 |
| †1896 | 39 | 25,847 | ..... | 696 |
| †1897 | ..... | 3,204 | ..... | 25 |
| †1898 | 6 | ..... | 466 | 178 |
| †1899 | ..... | ..... | 923 | ..... |
| †1900 | ..... ... | ..... | 79,927 | 957 |
| †1901 | ..... | ..... | 12,515 | 196 |
| | 540 | 228,957 | 229,406 | 606,168 |
| | *Dr.* £228,417 | | *Dr.* £376,762 | |

* Six months ended 30th June. † Twelve months ended 30th June.

## TRUST FUNDS.

The Trust Account forms a very important division of the public finances, not only from the nature of the transactions and the volume of accumulated funds, but also by reason of the manner in which the accounts are operated upon in conjunction with the general finances of the state. To show the growing importance of the Trust Account, the

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following table has been compiled. In 1871 the amount at credit was £213,340; in 1881, £1,671,183; in 1891, £4,997,055; the sum held in trust has now reached the very large figure of over ten and three-quarter millions.

| Year. | Amount. | Year. | Amount. | Year. | Amount. |
|---|---|---|---|---|---|
| | £ | | £ | | £ |
| 1871 | 213,340 | 1882 | 1,884,899 | 1892 | 4,536,756 |
| 1872 | 321,766 | 1883 | 2,200,896 | 1893 | 5,859,503 |
| 1873 | 472,437 | 1884 | 2,384,480 | 1894 | 6,544,001 |
| 1874 | 630,399 | 1885 | 2,515,110 | *1895 | 7,025,660 |
| 1875 | 757,909 | 1886 | 2,702,486 | *1896 | 7,657,741 |
| 1876 | 854,571 | 1887 | 2,731,036 | *1897 | 8,672,742 |
| 1877 | 1,006,425 | 1888 | 3,172,056 | *1898 | 8,465,818 |
| 1878 | 990,284 | 1889 | 3,175,484 | *1899 | 9,257,888 |
| 1879 | 986,729 | 1890 | 3,381,992 | *1900 | 10,103,940 |
| 1880 | 1,190,130 | 1891 | 4,997,055 | *1901 | 10,823,128 |
| 1881 | 1,671,183 | | | | |

* 30th June.

The accounts of which the sum of £10,823,128 at credit at the middle of 1901 is the aggregate, are of a miscellaneous character, the largest being the Government Savings Bank Account of £6,199,054; the deposit of the Savings Bank of New South Wales, £2,780,000; the Civil Service Superannuation Account, £180,128; the Master in Equity's Account of £558,102, and the Railway Stores Account of £90,186; the Assurance Fund Real Property Act Account of £185,785; and the Railway Loan Redemption Fund, £225,000. A complete list of the various accounts will be found on page 825. The Trust accounts are of two kinds—those opened with the Treasury by departmental arrangement or pursuant to the provisions of an Act of the Legislature, and voluntary deposits by public bodies or companies. The great bulk of the accounts is of the first kind, comprising £8,039,128, or over 74 per cent. of the gross total; the voluntary deposits amount to £2,784,000, the items making up the total being the deposit of the Savings Bank of New South Wales of £2,780,000 already mentioned, and the account of the William Roberts bequest, amounting to £4,000.

The existence of a large account upon which the Treasury is free to operate has been of no little assistance to the Consolidated Revenue in times past; in fact, the Trust Funds form a strong reserve on which the Government may fall back in time of need. The great bulk of the funds bears interest, whether invested or not; but the power to use these funds enables the Government to effect a saving of interest, as similar accommodation from the banks could not be obtained under such favourable conditions. At the same time, it cannot be denied that the existence of the funds has been a strong temptation to extravagance, as without them it would not have been possible to have had the large excess of expenditure over revenue that has become so marked a feature of public finance since 1885.

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As will be seen on page 826, a sum of £1,897,584 was advanced from the Trust Funds for the purpose of taking up Treasury Bills in aid of Revenue and Works.

The Trust Funds may be divided into two classes—those coming under the provisions of the Audit Act, and subject to the direct operations of the Treasury; and those not subject to that Act, and operated upon by the officers in whose names they stand. Unlike the accounts belonging to the first-named class, the funds not subject to the Audit Act do not technically form part of the public account; nevertheless, for general convenience they are used in the General Banking Account. The distinction between the two classes of accounts has been maintained in the following table, which also shows how the various funds stood invested, and the amount at credit on the 30th June, 1901 :—

| Fund. | Amount at Credit. | Distribution. | | |
|---|---|---|---|---|
| | | Amount Invested in Government Securities. | Amount uninvested. | |
| | | | On which Interest is paid. | On which Interest is not paid. |
| **Subject to Audit Act.** | | | | |
| | £ | £ | £ | £ |
| Civil Service Superannuation Account (48 Vic. No. 24) | 180,128 | 150,000 | 30,128 | ..... |
| Police Reward Fund | 4,057 | ..... | ..... | 4,057 |
| Police Superannuation Fund | 3,480 | ..... | ..... | 3,480 |
| Trust Moneys Account | 982 | ..... | ..... | 982 |
| Special Deposits Account— | | | | |
| Government Savings Bank Account | 6,199,054 | 5,154,349 | 1,044,705 | ..... |
| Savings Bank of New South Wales Deposit Account | 2,780,000 | ..... | 2,780,000 | ..... |
| Assurance Fund, Real Property Act (26 Vic. No. 9) | 185,785 | 172,090 | ..... | 13,695 |
| Railway Stores Account | 90,186 | ..... | ..... | 90,186 |
| Perpetual Trustee Company (Limited) | 20,000 | 20,000 | ..... | ..... |
| Permanent Trustee Company of New South Wales (Limited) | 20,000 | 20,000 | ..... | ..... |
| Municipal Council of Sydney Sinking Fund (50 Vic. No. 13) | 39,027 | 31,500 | 7,527 | ..... |
| Other Special Deposits | 231,704 | 46,805 | 22,498 | 162,401 |
| Total, subject to Audit Act | 9,754 403 | 5,594,744 | 3,884,858 | 274,801 |
| **Not subject to Audit Act.** | | | | |
| New South Wales 1,924 Stock Redemption Fund | 39,613 | ..... | ..... | 39,613 |
| New South Wales 1,925 Stock Redemption Fund | 44,451 | ..... | ..... | 44,451 |
| New South Wales 1,927 Stock Redemption Fund | 27,750 | ..... | ..... | 27,750 |
| New South Wales 1,928 Stock Redemption Fund | 22,475 | ..... | ..... | 22,475 |
| New South Wales 1,929 Stock Redemption Fund | 22,243 | ..... | ..... | 22,243 |
| New South Wales 1,930 Stock Redemption Fund | 4,851 | ..... | ..... | 4,851 |
| Railway Loan Redemption Fund | 225,000 | ..... | ..... | 225,000 |
| Colonial Treasurer's— | | | | |
| Master in Equity Account | 558,102 | 276,770 | 281,332 | ..... |
| Curator of Intestate Estates Account | 25,251 | ..... | 25,251 | ..... |
| Master in Lunacy Account | 50,780 | 41,784 | 8,996 | ..... |
| Registrar in Bankruptcy Account | 10 | ..... | 10 | ..... |
| Prothonotary Account | 2,909 | ..... | ..... | 2,909 |
| Registrar of Probates Account | 39,478 | ..... | 39,478 | ..... |
| Bushmen's Contingent to South Africa Fund | 5,812 | ..... | ..... | 5,812 |
| Total, not subject to Audit Act | 1,068,725 | 318,554 | 355,067 | 395,104 |
| Grand Total £ | 10,823,128 | 5,913,298 | 4,239,925 | 669,905 |

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With the exception of a portion of the sum deposited in the Treasury by the Savings Bank of New South Wales, a general rate of 4 per cent. was allowed to 31st December, 1894, on all funds entitled to interest. On the 1st January, 1895, the rate was reduced to 3 per cent. on all accounts except those on which the old rates could not be altered till the terms of the existing arrangements had expired.

The table just given does not, however, fully illustrate the uses to which the trust funds have been put; the following figures are necessary to the proper understanding of an important phase of the public accounts. On the 30th June, 1901, of trust funds there were invested in—

| | £ |
|---|---|
| Debentures, Stock, and Miscellaneous Securities..... | 4,015,714 |
| Treasury Bills ..... | 1,897,584 |
| Advanced to General Loan Account ..... | 1,500,000 |
| Used for general purposes ..... | 3,409,830 |
| Total..... | 10,823,128 |

Trust moneys deposited with the Treasury, on which no interest is paid, amount to £669,905, while on the £5,884,993, in debenture stock and Treasury bills, the annual payment is £196,594, or at the rate of £3 6s. 10d. per cent.

The distribution of the fund on the 30th June, 1901, according to the rates of interest, was as follows:—

| Securities, etc. | Rate of Interest per cent. per annum. | | | | |
|---|---|---|---|---|---|
| | 3 | 3½ | 4 | 5 | Total. |
| | £ | £ | £ | £ | £ |
| Treasury Bills in aid of Revenue | 1,658,084 | ..... | 219,500 | ... | 1,877,584 |
| Treasury Bills in aid of Works | ..... | 28,000 | ..... | ... | 28,000 |
| Funded Stock— | | | | | |
| New South Wales, 4 per cents. | ..... | ..... | 403,249 | ... | 403,249 |
| New South Wales Funded Stock (56 Vic. No. 1) ..... | ..... | ..... | 1,147,260 | ... | 1,147,260 |
| New South Wales Funded Stock (58 Vic. No. 14) ... | 30,000 | ..... | ..... | ... | 30,000 |
| New South Wales Funded Stock (59 Vic. No. 6)..... | 880,000 | ..... | ..... | ... | 880,000 |
| New South Wales Funded Stock (60 Vic. No. 32) ... | 1,032,500 | ..... | ..... | ... | 1,032,500 |
| New South Wales 1924 Stock | 20,000 | ..... | ..... | ... | 20,000 |
| New South Wales 1925 Stock | 150,000 | ..... | ..... | ... | 150,000 |
| Advances to Settlers Act (62 Vic. No. 1) ..... | 100,000 | ..... | ..... | ... | 100,000 |
| Debentures ..... | ..... | ..... | 224,400 | ... | 224,400 |
| Invested in securities other than Government ..... | 13,580 | ..... | 1,725 | 13,000 | 28,305 |
| Uninvested bearing interest ... | 1,422,271 | 2,780,000 | 37,654 | ... | 4,239,925 |
| Total ..... £ | 5,306,435 | 2,800,000 | 2,033,788 | 13,000 | 10,153,223 |

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It was the practice of the Treasury to place at fixed deposit the portion of the trust funds not invested and held in excess of immediate requirements; at the time of the banking crisis a large sum was so invested, since then, however, the amount has been gradually reduced, and during the last financial year the City Bank of Sydney made its final monthly payment. All funds are now held at current account. The total amount of interest received by the Treasury during the year ended June, 1901, on fixed deposits and other investments was £3,438, a large part of which was earned by moneys belonging to the Trust Account.

All trust funds under the Audit Act remaining unclaimed for a period of two years, and balances of intestate and probate estates unclaimed after a lapse of six years, are transferred and surrendered to the Consolidated Revenue, and no person can legally claim moneys so dealt with; nevertheless, the Treasury invariably recognises and pays in all cases where an otherwise valid claim can be shown. The amount transferred to the Consolidated Revenue for each of the last eleven and a half years is given below; the figures are gross, as the sum refunded cannot be given, but this is by no means considerable in any one year:—

| Year. | Amount. | Year. | Amount. |
|---|---|---|---|
| | £ | | £ |
| 1889 | 52,735 | †1896 | 35,276 |
| 1890 | 20,607 | †1897 | 21,588 |
| 1891 | 16,713 | †1898 | 9,991 |
| 1892 | 13,767 | †1899 | 4,671 |
| 1893 | 15,194 | †1900 | 3,881 |
| 1894 | 12,659 | †1901 | 182 |
| *1895 | 18,017 | | |

* Six months ended 30th June. † Twelve months ended 30th June.

## LOAN APPROPRIATIONS.

All items of expenditure to be provided for by loan are authorised under an Appropriation Act, in the same manner as the ordinary expenditure chargeable to the general revenue, while under the Inscribed Stock Act of 1883 (46 Vic., No. 12), the passing of the Loan Estimates confers the power of raising the money required without the necessity of a special Loan Act. There is a further restriction to the expenditure of money, whether from loans or revenue, in the operation of the Public Works Act of 1888. Under the provisions of this Act, the question of the advisability of carrying out all works estimated to cost more than £20,000, except those connected with military and naval defence and the maintenance of railways, is referred by resolution of the Legislative

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Assembly to the Parliamentary Standing Committee appointed during the first Session of each Parliament. The Committee investigates and reports to Parliament, and the Assembly by resolution declares whether it is expedient or not to carry out the proposed work; and if the declaration is in the affirmative, a Bill embodying such resolution has to be passed before the authorisation is absolute. The Loan Act of 1901 authorised the raising of a loan of £2,997,213 for services shown in the subjoined table :—

| Services. | Amount (for which no provision is made for Sinking Fund). |
|---|---|
| | £ |
| Railways— | |
| Existing Lines | 800,000 |
| Construction Branch | 283,551 |
| Tramways— | |
| Existing Lines | 480,000 |
| Construction | 120,000 |
| Harbours and Rivers | 279,350 |
| Water Supply and Sewerage Construction | 134,140 |
| Metropolitan Water Supply and Sewerage | 47,500 |
| Hunter District Water Supply and Sewerage | 7,000 |
| Government Architect | 70,250 |
| Roads and Bridges | 91,910 |
| Miscellaneous Services— | |
| Inebriates Home | 7,000 |
| Memorial to Soldiers who fell in South African War | 20,000 |
| Sydney Harbour Trust—Erection of Wharves and Jetties | 75,000 |
| Erection of Public Baths, Sydney and Newcastle | 13,000 |
| Technical Colleges, &c. | 15,000 |
| Wagga Wagga Experimental Farm | 2,500 |
| Hospitals | 69,500 |
| Public School Buildings and Sites | 55,000 |
| Erection of Fire Stations and Sites | 15,000 |
| Total for Works £ | 2,585,701 |
| To meet 5 per cent. Debentures, due 1902 £ | 399,300 |
| To meet 5 per cent. Debentures due 1 December, 1901, taken over from Newcastle Borough Council £ | 12,212 |
| Total Loans Authorised during 1901 £ | 2,997,213 |

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It will be seen that no provision is made for redeeming a portion of the proposed loan by a sinking fund. This principle of redemption from revenue was applied to expenditure on works or services whose value will disappear by the time the loan out of the proceeds of which they were constructed falls due under the Loan Acts of 1894, 1895, 1896, 1897, 1898, and 1899, but was discontinued in the Loan Act of 1900.

The Loan Appropriations for each year from 1875 to 1900 are given in the subjoined table, the amounts proposed to be expended on public works being distinguished from those required for redemption of previous loans :—

| Year. | Amount authorised— | | |
|---|---|---|---|
| | For Public Works and Services. | For Redemption of Loans. | Total. |
| | £ | £ | £ |
| 1875 | ..... | ..... | ..... |
| 1876 | 2,236,000 | ..... | 2,236,000 |
| 1877 | 1,120,000 | ..... ..... | 1,120,000 |
| 1878 | ..... | ..... | ..... ..... |
| 1879 | 7,352,768 | ..... | 7,352,768 |
| 1880 | 1,262,000 | ..... ... | 1,262,000 |
| 1881 | 8,807,500 | ..... | 8,807,500 |
| 1882 | ..... | ..... | ..... |
| 1883 | 2,000,000 | ..... | 2,000,000 |
| 1884 | 14,388,303 | ..... ..... | 14,388,303 |
| 1885 | ..... | ..... | ..... |
| 1886 | 3,115,393 | ..... | 3,115,393 |
| 1887 | ..... | ..... | ..... |
| 1888 | 3,641,305 | 1,390,600 | 5,031,905 |
| 1889 | 4,366,696 | 723,200 | 5,089,896 |
| 1890 | 4,982,957 | 2,038,800 | 7,021,757 |
| 1891 | 4,000,000 | ..... | 4,000,000 |
| 1892 | 4,414,568 | ..... | 4,414,568 |
| 1893 | 839,806 | 40,000 | 879,806 |
| 1894 | 1,690,662 | 832,000 | 2,522,662 |
| 1895 | 1,555,200 | 977,400 | 2,532,600 |
| 1896 | 2,205,576 | 65,800 | 2,271,376 |
| 1897 | 1,847,552 | 177,200 | 2,024,752 |
| 1898 | 2,035,837 | 197,700 | 2,233,537 |
| 1899 | 2,016,881 | 857,100 | 2,873,981 |
| 1900 | 2,298,485 | 404,900 | 2,703,385 |

Loan Appropriations are invariably in excess of the amount actually required for expenditure, and it has frequently happened that beyond obtaining parliamentary sanction no further action has been taken in regard to loans authorised to be raised, and the last statement of public accounts shows that loans to the extent of some twenty-three millions were authorised, the bulk of which will in all probability never be issued.

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## Loan Account.

The Loan Account was not established until 1853, although the system of raising money by loans was introduced as early as 1842. The first ten loans of the state, which were issued under *Gazette* notices for immigration purposes, were raised on the security of the Land, or, as it was called, the Territorial Revenue; but only £329,700 was redeemed from that source, the balance being made a liability of the Consolidated Revenue, and as such eventually included in the Loan Account under the head of Redemptions. From 1853 to 1870 the proceeds of loans were paid into and formed part of the Consolidated Revenue Fund; but during the year last mentioned a different principle was introduced, and a separate account was opened apart from Revenue for each loan floated, while the amount then at credit of the old loans continued to be operated upon in conjunction with the Revenue Account until 1891, when the account was finally closed. The system of separate Loan Accounts continued for about nine years; but in 1879, under authority of the Loan Fund Amalgamation Act, the nine separate Loan Funds then existing were merged into one "General Loan Account," into which also the proceeds of all loans thereafter raised were to be paid. The present system is open to technical objection, as it admits of the expenditure of money on services for which no loan has been raised; but it has the great merit of saving interest, and rendering unnecessary the raising of loans when the Treasury has large sums in hand, the proceeds of former loans.

The following figures show the amount of loans raised from the commencement of the Loan Account to the 30th June, 1901, and the proceeds available for expenditure:—

| | | |
|---|---|---|
| Treasury Bills, Debentures, Inscribed and Funded Stock sold from 1842 to 30th June, 1901 | | £84,575,126 |
| Discount, bonus, and charges | | 2,886,572 |
| Net amount realised | | £81,688,554 |
| Add net amount transferred from Consolidated Revenue to make good amount short-raised | | 128,006 |
| Add amount advanced from Consolidated Revenue | | 1,500,000 |
| Add amount advanced by Curator of Intestate Estates in anticipation of loans | | 50,000 |
| Add Sewerage Works taken over from Municipal Councils, Ashfield, Balmain, and North Sydney | | 8,400 |
| | | £83,374,960 |
| Less proceeds of old loans not included in Loan Account | | 724,733 |
| Advances to Settlers Account (62 Vic. No. 1) | | 219,450 |
| | | 944,183 |
| Sum available for expenditure | | £82,430,777 |

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The use to which the sum just stated was put is shown in the following table. It will be observed that a sum of £14,443,030 for redemption of loans is included in the total; this amount was not, of course, an item of expenditure, but its inclusion is necessary to fully account for the total of £82,430,777, in which the original loans as well as the redemption loans were included :—

| | | £ |
|---|---|---|
| Expended on— | | |
| Railways | | 40,450,473 |
| Tramways | | 2,720,338 |
| Telegraphs and Telephones | | 1,255,600 |
| Water Supply and Sewerage | | 9,878,833 |
| Wharves | | 1,923,062 |
| Docks | | 362,695 |
| Harbours and Rivers | | 3,315,031 |
| Public Works and Buildings | | 3,627,918 |
| Roads and Bridges | | 1,382,351 |
| Fortifications and Military Works | | 1,419,106 |
| Immigration | | 194,430 |
| Public Instruction—School Buildings, etc. | | 533,472 |
| Works in Queensland prior to separation | | 49,855 |
| | | £67,113,164 |
| Redemptions— | | |
| Loans redeemed from Proceeds of New Loans... | £12,643,030 | |
| Treasury Bills in aid of Revenue paid off... ..... | 1,800,000 | |
| | | 14,443,030 |
| Treasury Bills in aid of Revenue current | | 1,877,584 |
| | | £83,433,778 |
| Debit Balance of Loan Account on 30th June, 1901 | | 1,003,001 |
| Total (as shown on previous page) | | £82,430,777 |

The sum actually expended from loans was, therefore, £68,990,748, the balance to make up the total of £82,430,777 being represented by redemptions and debit balance. Of the sum mentioned, £56,591,001, or over 82 per cent., has been expended on directly productive works yielding or capable of yielding revenue towards meeting the charges for interest. Besides the sum just referred to, £8,858,772 has been spent on other works of a permanent nature, such as roads and bridges, improvements to harbours and rivers, lighthouses, schools, and public buildings, which, though not directly productive, have been undertaken for the development of the resources of the state, and for facilitating settlement. The balance of £68,990,748, viz., £3,540,975, has been expended in reduction of the deficiency in revenue of 1894 and previous years and on unproductive services, the items being £1,877,584 in reduction of the deficiency in revenue of 1894 and previous years, £1,419,106 for fortifications and military works, £49,855 for public works in Queensland prior to separation, and £194,430 for the promotion of immigration. The figures last given represent the expenditure on immigration under responsible government, prior to the assumption of which £724,733 was expended on this service, making a total expenditure of £919,163 for the encouragement of immigration.



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The loan expenditure on account of the various services from 1897 to 1901 was as follows :—

| Head of Service. | *1897. | *1898. | *1899. | *1900. | *1901. |
|---|---|---|---|---|---|
| | £ | £ | £ | £ | £ |
| Railways | 454,039 | 336,754 | 400,142 | 608,681 | 750,091 |
| Tramways | 22,635 | 85,131 | 189,014 | 249,512 | 335,656 |
| Telegraphs and Telephones | 68,664 | 44,818 | 63,186 | 84,334 | 127,859 |
| Water Supply and Sewerage— | | | | | |
| Water Supply— | | | | | |
| Metropolitan | 101,919 | 125,691 | 143,614 | 78,421 | 69,938 |
| Hunter District | 21,933 | 3,276 | 7,125 | 4,089 | 4,234 |
| Country Towns and Mining Townships | 29,880 | 64,115 | 43,055 | 36,210 | 45,439 |
| Sewerage— | | | | | |
| Metropolitan | 167,783 | 282,034 | 319,777 | 251,324 | 273,906 |
| Buildings and Stores | 5,165 | ..... | ..... | ..... | ..... |
| Hunter District | ..... | 10,186 | 7,417 | 2,293 | 181 |
| Country Towns | 16,250 | 1,765 | 217 | 7,403 | 15,572 |
| Water Conservation and Irrigation | 97,179 | 50,655 | 58,533 | 58,944 | 123,221 |
| Harbours and Rivers Navigation— | | | | | |
| Wharfs, including resumption | 39,011 | 51,864 | 109,536 | 79,099 | 143,222 |
| Docks | 1,555 | 401 | 3,845 | 20,966 | 17,817 |
| Harbours | 55,859 | 75,237 | 50,107 | 54,042 | 99,799 |
| Rivers | 81,044 | 99,127 | 104,598 | 138,464 | 118,365 |
| Navigation | 6,070 | 8,325 | 9,117 | 10,978 | 31,453 |
| Alteration of Dredges | 13,301 | 11,237 | 14,771 | 2,915 | 14,114 |
| Reclamation Works | 43,332 | 36,230 | 18,706 | 75,882 | 80,429 |
| Roads and Bridges | 55,004 | 59,500 | 113,754 | 95,943 | 130,499 |
| Fortifications and Military Works, and Naval Station, Sydney Harbour | 11,102 | 34,147 | 53,654 | 29,427 | 65,218 |
| Public Works, Buildings, &c.— | | | | | |
| Charitable Institutions | 56,734 | 37,049 | 31,510 | 50,937 | 42,284 |
| Administration of Justice | 49,156 | 35,663 | 37,590 | 82,728 | 72,753 |
| Educational | 32,306 | 34,406 | 18,453 | 36,095 | 50,571 |
| Public Instruction, School Buildings, &c. | 14,000 | 26,199 | 5,000 | 45,000 | 40,000 |
| Other Public Buildings and Works | 52,020 | 67,846 | 80,398 | 80,097 | 81,615 |
| Purchase of Sites and Erection of Buildings for Local Land Boards and Survey Offices | 4,471 | 4,354 | 3,307 | 3,604 | 454 |
| Forest Reserves, for thinning out and improving | 11,002 | 8,040 | ..... | 8,540 | 4,411 |
| Compensation for cancellation under Mining Act of 1889 | 13 | 392 | 125 | 200 | 58 |
| To promote settlement under Crown Lands Act of 1895 | 36,678 | 41,298 | 21,413 | ..... | ..... |
| Hay Irrigation Works | ..... | 1,306 | 31 | 130 | 229 |
| Clearing and Improving Crown Lands | ..... | 116 | 4,445 | 18,522 | 105 |
| Jenolan Caves — For resumption of Accommodation House, and to provide improved buildings | ..... | 6,591 | 2,504 | 3,888 | 52 |
| Wombeyan Caves — Accommodation House | ..... | ..... | ..... | 3 | 874 |
| Yarrangobilly Caves — Accommodation House | ..... | ..... | ..... | ..... | 1,000 |
| *Less* Repayment to Credit of Votes, &c. £ | 1,548,106<br>†70,787 | 1,644,743<br>..... | 2,024,944<br>..... | ‡2,219,271<br>..... | 2,741,419<br>..... |
| Municipal Works taken over by the State (the expenditure on these Works is not rightly chargeable to the years in which the transfers were made) | 1,477,318<br>..... | 1,644,743<br>8,400 | 2,024,944<br>..... | 2,219,271<br>..... | 2,741,419<br>..... |
| Total Expenditure on Public Works, &c. £ | 1,477,318 | 1,653,143 | 2,024,944 | 2,219,271 | 2,741,419 |
| Loans repaid by New Loans (including Treasury Bills) | 2,201,800 | 2,700 | 369,200 | 6,100 | 861,500 |
| Total £ | 3,679,118 | 1,655,843 | 2,394,144 | 2,225,371 | 3,602,919 |

* Year ended 30th June. † This amount is portion of the over-issues, Loan Votes Account, which was transferred to the General Loan Account in 1897-8, but the repayment which should be credited to each year cannot be distinguished, and the whole amount has, therefore, been deducted from 1896-7. ‡ Includes £18,100 for Unadjusted Issues Account.

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During the five years ended 30th June, 1901, £2,549,707 has been expended upon railways, £881,948 on tramways, £388,861 on telegraphs and telephones, £778,939 on water supply for the Metropolitan and Hunter River Districts and Country Towns and Mining Townships, £1,362,373 on sewerage for the Metropolitan District and Country Towns, and £388,532 for Water Conservation and Irrigation. For the purpose of thinning out the forest reserves of the State, with the object of improving the character of the timber remaining, an amount of £31,993 has been spent, and £122,577 has been disbursed on the general improvement of Crown Lands to promote settlement under the Crown Lands Acts in force. Most of the foregoing items were for services likely to be permanently revenue producing, or deemed necessary for the proper development of the state; it must, however, be confessed that there has been some expenditure on works and services for which there will be in a few years no substantial assets remaining. Items of this kind it is intended in future to pay for altogether out of revenue, or if out of loans, to provide for their ultimate payment out of revenue by means of a sinking fund.

In the early stages of Australasian borrowing the expenditure was moderate, loans were hard to raise, and interest high; but latterly, as the conditions under which loans could be contracted became favourable, especially since 1875, few of the states set any bounds to their requirements. It was a repetition of the old experience, the opportunity engendered the desire, and the open purses of the investors tempted the states to undue borrowing and lavish expenditure. What is termed a "vigorous public works policy" was the order of the day, and works were pressed forward which under other circumstances would not have been undertaken, or have been held back until the growth of population warranted their construction. The plethora of money has been harmful in many ways, but is most apparent in the construction of not a few branch railways in outlying and sparsely-settled districts which do not pay even their working expenses, with the consequence that the interest on loan capital has to be met out of general revenue, and in some instances the present generation will pass away before this condition of affairs will be remedied. But when every allowance has been made for unwise or improvident expenditure, it will be found that by far the larger portion of the proceeds of loans has been well expended. In some instances, as the subsequent pages show, it will be years, taking a most hopeful view of the situation, before the revenue-producing works will yield a sum sufficient to pay working expenses and interest; nevertheless, a practical consideration of the conditions which surround Australasian settlement will demonstrate that in some instances the construction of these works was justifiable, for apart from the certainty that they will ultimately be self-supporting, they have already materially assisted in developing the country's resources, and have largely enhanced the value of the public estate.

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The loan expenditure, exclusive of payments on account of redemptions, during each year and up to the end of each period since 1874, was as follows:—

| Year. | During each year. | | At the close of each year. | |
|---|---|---|---|---|
| | Amount. | Per inhabitant. | Amount. | Per inhabitant. |
| | £ | £ s. d. | £ | £ s. d. |
| 1874 | 529,783 | 0 18 9 | 9,787,876 | 17 0 6 |
| 1875 | 1,149,152 | 1 19 4 | 10,937,028 | 18 8 1 |
| 1876 | 707,511 | 1 3 5 | 11,644,539 | 18 19 2 |
| 1877 | 995,353 | 1 11 8 | 12,639,892 | 19 12 9 |
| 1878 | 815,116 | 1 4 9 | 13,455,008 | 20 0 6 |
| 1879 | 1,271,705 | 1 16 10 | 14,726,713 | 20 15 2 |
| 1880 | 1,668,638 | 2 5 8 | 16,395,351 | 21 18 5 |
| 1881 | 2,397,368 | 3 2 8 | 18,792,719 | 24 0 7 |
| 1882 | 2,832,759 | 3 10 11 | 21,625,478 | 26 10 8 |
| 1883 | 3,265,711 | 3 15 10 | 24,891,189 | 28 18 0 |
| 1884 | 3,674,706 | 4 3 2 | 28,565,895 | 31 11 4 |
| 1885 | 3,896,145 | 4 4 0 | 32,462,040 | 34 3 9 |
| 1886 | 3,766,356 | 3 17 8 | 36,228,396 | 36 12 5 |
| 1887 | 1,965,019 | 1 19 1 | 38,193,415 | 37 8 8 |
| 1888 | 2,076,307 | 2 0 1 | 40,269,722 | 38 6 3 |
| 1889 | 1,464,900 | 1 7 6 | 41,734,622 | 38 11 7 |
| 1890 | 2,299,751 | 2 1 9 | 44,034,373 | 39 19 3 |
| 1891 | 4,750,167 | 4 3 2 | 48,784,540 | 42 14 4 |
| 1892 | 3,014,680 | 2 11 3 | 51,799,220 | 44 0 2 |
| 1893 | 1,929,580 | 1 12 1 | 53,728,800 | 44 13 2 |
| 1894 | 1,330,046 | 1 1 8 | 55,058,846 | 44 17 6 |
| *1895 | 659,125 | ‡0 10 8 | 55,717,971 | 44 19 3 |
| †1896 | 1,279,098 | 1 0 3 | 56,997,069 | 45 3 1 |
| †1897 | 1,477,318 | 1 3 1 | 58,474,387 | 45 14 5 |
| †1898 | 1,653,143 | 1 5 5 | 60,127,530 | 46 3 9 |
| †1899 | 2,024,944 | 1 10 7 | 62,152,474 | 46 19 6 |
| †1900 | 2,219,271 | 1 13 0 | 64,371,745 | 47 17 10 |
| †1901 | 2,741,419 | 2 0 2 | 67,113,164 | 49 3 8 |

* Six months ended 30th June. † Twelve months ended 30th June. ‡ Amount for six months.

Prior to 1875 the loan expenditure on works was moderate, and calls for no special comment. In the year named, however, the amount spent was more than double that of 1874, and that year may be considered the starting-point of the vigorous public works policy already alluded to. The figures in the table speak for themselves. In regard to the year 1891, and in some degree to 1892, it may be as well to note that there was a large expenditure on account of quadrupling a portion of the main line in the metropolitan area—a work of urgent necessity, without which the Railway Commissioners professed themselves unable to work with safety and efficiency the large interests entrusted to them. Besides this expenditure, a sum of £1,000,000 was expended on reconstruction of rolling stock and permanent way, which, being for renewals, was properly a charge against working expenses, but the sum was

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advanced to the Commissioners from the General Loan Account in accordance with a special Act of the Legislature, to be repaid by them presumably out of the earnings of the railways under their control—the annual payment in redemption of the advance being fixed at £75,000. It has been pointed out in another part of this chapter that with the exception of the financial years ended 30th June, 1897, and 30th June, 1901, the railways did not earn sufficient to meet the whole of the annual interest chargeable on the debt liability, so that the payment of the instalment in the manner provided was an impossibility; and although the sum of £75,000 appears in the public accounts as being repaid from railway earnings, it is in reality a charge on the general revenue of the state.

The growth of the loan expenditure, so marked in the past decade, is hardly likely to be continued, as apart from the salutary check imposed by the investigations of the Parliamentary Standing Committee on Public Works, railway construction, for which most of the loans have been raised, will in the future be confined to perfecting the various systems in operation, and to the gradual extension of the coast lines north and south.

## History of the Public Debt.

When in 1831 it was decided to abolish the system of free land grants, and to dispose of the public estate by auction in lieu of private tender, it was also decided that the proceeds of land sales should be paid into what was called the Land Fund, from which were to be paid the charges incident to the introduction of immigrants; and it was from the inability of the Land Fund to meet these charges that the public debt of New South Wales first had its rise. From 1831 to 1841 the Land Fund was sufficient, but in the year last named the engagements for immigration purposes were so heavy that it became necessary to supplement the Fund in some way, and for this purpose it was decided by the Governor to borrow on the security of the Territorial or Land Revenue. Accordingly, on the 28th December, 1841, a debenture loan of £49,000 was offered locally under *Gazette* notice. This loan was issued during 1842 in two instalments, the nominal rates of interest being 5¼d. and 4d. per cent. respectively per diem. The loan at the higher rate was raised at par, and the other at a discount of 2 per cent. This was the first loan floated in the state, as well as the first raised by any of the Australasian Governments. Including those just mentioned, there were issued between the years 1842 and 1855 ten loans, amounting in the aggregate to £705,200, the proceeds of which were devoted to the furtherance of immigration. Debentures representing these immigration loans were redeemed to the value of £329,700 from the Territorial Revenue, while the balance of £375,500 was taken over as a liability on the general revenue of the state, and ultimately became incorporated

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in the public debt. In addition to the Immigration Loans, there were others, six in number, authorised by Acts of Council. These were not all issued until after responsible government was proclaimed. Under the authority of the above-mentioned Acts, the first instalment of a loan for £683,300 was placed on the London market during the years 1854 and 1855. This was the first Australasian loan issued in England, and the forerunner of numerous others, representing a liability of over £231,000,000 outstanding in 1898.

The Public Debt in November, 1855, when responsible government was proclaimed, was £1,000,800, distributed under the following heads :—

| | |
|---|---|
| Raised on the Security of Territorial Revenue— | |
| Immigration | £423,000 |
| Sydney Railway Company's Loan | 217,500 |
| Raised on the Security of General Revenue— | |
| Amount for Sydney Sewerage | 54,900 |
| ,, ,, Sydney Water Supply | 28,000 |
| ,, ,, Railways | 256,400 |
| ,, ,, Public Works | 21,000 |
| Total | £1,000,800 |

Of the total shown above, £47,500 was redeemed out of the Territorial Revenue; the remainder, although afterwards nominally redeemed by new loans, in reality forms part of the existing public debt.

The debt outstanding at each quinquennial period is given in the subjoined table. It will be seen that the appetite for borrowing increased with the growth of population. From 1850 to 1860 the average annual increase of indebtedness was £370,000; from 1860 to 1870, £585,000; from 1870 to 1880, £522,000; from 1880 to 1890, £3,348,000; and from 1890 to 1900, £1,695,000 :—

| Year. | Amount. | Year. | Amount. | Year. | Amount. |
|---|---|---|---|---|---|
| | £ | | £ | | £ |
| 1842 | 49,500 | 1865 | 5,749,630 | 1885 | 35,564,259 |
| 1845 | 97,900 | 1870 | 9,681,130 | 1890 | 48,383,333 |
| 1850 | 132,500 | 1875 | 11,470,637 | *1900 | 65,332,993 |
| 1855 | 1,000,800 | 1880 | 14,903,919 | *1901 | 67,361,246 |
| 1860 | 3,830,230 | | | | |

* 30th June.

The increase has been most marked since 1880, the period covered by the following table, which contains the more important particulars

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necessary for a right understanding of the public loan accounts. The amount of bonds or stock sold has been placed against the year in which the sales were effected, and not, as is the practice of the Treasury, against the year in which they were brought to account:—

| Year ending on the 31st December. | Treasury Bills, Debentures, and Stock at close of each year— | | | | | | |
|---|---|---|---|---|---|---|---|
| | Authorised. | Sold. | Redeemed. | | | Unredeemed (Outstanding Public Debt). | |
| | | | From Consolidated Revenue. | By New Loans. | Total. | Total. | Per Inhabitant |
| | £ | £ | £ | £ | £ | £ | £ s. d. |
| 1880 | 27,333,964 | 17,986,519 | 1,371,870 | 1,710,730 | 3,082,600 | 14,903,919 | 19 18 6 |
| 1881 | 36,141,464 | 20,040,719 | 1,405,970 | 1,710,730 | 3,116,700 | 16,924,019 | 21 12 10 |
| 1882 | 36,141,464 | 22,040,719 | 1,608,770 | 1,710,730 | 3,319,500 | 18,721,219 | 22 19 5 |
| 1883 | 38,141,464 | 28,045,719 | 1,702,530 | 1,710,730 | 3,413,260 | 24,632,459 | 28 12 0 |
| 1884 | 51,824,267 | 33,550,719 | 1,738,030 | 1,710,730 | 3,448,760 | 30,101,959 | 33 5 3 |
| 1885 | 51,824,267 | 39,050,719 | 1,775,730 | 1,710,730 | 3,486,460 | 35,564,259 | 37 9 1 |
| 1886 | 54,939,660 | 44,550,719 | 1,805,740 | 1,710,730 | 3,516,470 | 41,034,249 | 41 9 6 |
| 1887 | 54,939,660 | 44,560,719 | 1,854,640 | 1,710,730 | 3,565,370 | 40,995,349 | 40 3 7 |
| 1888 | 60,056,565 | 48,188,619 | 1,897,740 | 2,197,830 | 4,095,570 | 44,093,049 | 41 19 0 |
| 1889 | 65,146,461 | 53,595,719 | 1,943,240 | 3,098,930 | 5,042,170 | 48,553,549 | 44 17 8 |
| 1890 | 74,929,218 | 54,331,503 | 2,131,240 | 3,816,930 | 5,948,170 | 48,383,333 | 43 2 7 |
| 1891 | 74,929,218 | 59,325,703 | 2,311,640 | 4,063,330 | 6,374,970 | 52,950,733 | 45 11 3 |
| 1892 | 83,119,494 | 62,837,203 | 2,501,340 | 5,862,430 | 8,363,770 | 54,473,433 | 45 14 2 |
| 1893 | 84,015,300 | 67,919,103 | 2,687,340 | 5,902,730 | 8,590,070 | 59,329,033 | 48 17 9 |
| 1894 | 86,537,962 | 69,058,533 | 2,879,250 | 7,153,130 | 10,032,380 | 59,026,153 | 47 12 7 |
| *1895 | 86,540,462 | 69,086,213 | 2,890,250 | 7,975,030 | 10,865,280 | 58,220,933 | 46 11 0 |
| *1896 | 87,257,462 | 74,673,353 | 3,062,750 | 9,199,230 | 12,261,980 | 62,411,373 | 49 2 4 |
| *1897 | 89,533,238 | 76,240,078 | 3,764,550 | 11,401,030 | 15,165,580 | 61,074,498 | 47 6 7 |
| *1898 | 91,557,990 | 78,635,300 | 4,118,850 | 11,403,730 | 15,522,580 | 63,112,720 | 48 1 0 |
| *1899 | 94,291,527 | 79,808,346 | 4,270,850 | 11,775,430 | 16,046,280 | 63,762,066 | 47 16 3 |
| *1900 | 101,165,508 | 81,535,373 | 4,420,850 | 11,781,530 | 16,202,380 | 65,332,993 | 48 4 9 |
| *1901 | 107,868,893 | 84,575,126 | 4,570,850 | 12,643,030 | 17,213,880 | 67,361,246 | 49 6 0 |

* 30th June.

In dealing with the figures under the head of loans redeemed, it must be borne in mind that the loans paid off from revenue can alone be said to be redeemed. Where an old loan is redeemed out of the proceeds of subsequent loans, there is merely a change in the form of the liability, with, as a rule, some reduction of the interest charge.

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The following table shows the annual payments under each head for interest and expenses of the public debt since 1887. For the year 1893 the figures shown for interest do not represent the actual liability of that year, as the sum of £288,750, properly chargeable to 1892, was not brought to account until the following year; otherwise the figures are correct:—

| Year. | Interest. | Redemptions (including premium on purchase of Debentures on account of Railway Loan, 31 Vic. No. 11). | Expenses connected with management of Inscribed Stock, Bank of England. | Commission paid to Financial Agents in England and New South Wales. | Annual Interest and Charges paid. | |
|---|---|---|---|---|---|---|
| | | | | | Total. | Per Inhabitant. |
| | £ | £ | £ | £ | £ | £ s. d. |
| 1887 | 1,643,522 | 50,773 | 11,903 | 3,563 | 1,709,761 | 1 14 0 |
| 1888 | 1,702,595 | 44,588 | 13,160 | 2,862 | 1,763,205 | 1 14 1 |
| 1889 | 1,760,274 | 49,519 | 14,426 | 4,292 | 1,828,511 | 1 14 4 |
| 1890 | 1,857,656 | 39,203 | 15,855 | 3,068 | 1,915,782 | 1 14 9 |
| 1891 | 1,874,616 | 105,400 | 16,680 | 2,389 | 1,999,085 | 1 15 0 |
| 1892 | 1,715,096 | 115,196 | 18,259 | 3,410 | 1,851,961 | 1 11 5 |
| 1893 | 2,440,326 | 111,897 | 19,057 | 1,384 | 2,572,664 | 2 2 9 |
| 1894 | 2,255,255 | 107,502 | 19,952 | 1,869 | 2,384,578 | 1 18 10 |
| *1895 | 1,133,566 | 21,561 | 10,249 | 827 | 1,166,203 | ‡0 18 8 |
| †1896 | 2,262,997 | 261,752 | 16,923 | 1,718 | 2,543,390 | 2 0 4 |
| †1897 | 2,267,861 | 416,113 | 18,626 | 2,353 | 2,704,953 | 2 2 4 |
| †1898 | 2,255,690 | 300,248 | 18,600 | 1,941 | 2,576,479 | 1 19 6 |
| †1899 | 2,292,954 | 255,840 | 19,076 | 1,584 | 2,569,454 | 1 18 10 |
| †1900 | 2,310,271 | 264,562 | 19,206 | 1,397 | 2,595,436 | 1 18 8 |
| †1901 | 2,346,852 | 269,412 | 19,207 | 2,233 | 2,637,704 | 1 18 8 |

* Six months ended 30th June. † Twelve months ended 30th June. ‡ Amount for six months.

At present the net revenue from the public works of the country is entirely comprised in that derived from railways, tramways, and water supply and sewerage. Docks and wharves are in the same category, but owing to the fact that the claims in connection with the resumptions that come under the control of the Harbour Trust are incomplete, it cannot be determined how far the net return on these works meets the interest liability. The control of the Electric Telegraphs having passed to the Federal Government on the 1st March, 1901, they need not now be considered in this connection. The water and sewerage works of the Metropolitan area are not yet completed, and are not self-supporting; that is, the revenue is insufficient to meet the amount required to be expended on account of maintenance, management, depreciation, and interest on capital liability. The same remarks apply to the works under

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the control of the Hunter District Board. In connection with these works it must, however, be borne in mind that, in the absence of a complete and compulsory reticulation, there must be a large outlay of capital expenditure on which no return is received. When, however, these undertakings are completed, and the railways are in full operation, the sum available to meet interest and other charges on the public debt should leave little to be made good from the general revenue of the state.

The public debt is partly funded and partly unfunded, the funded debt comprising debentures, inscribed and funded stocks; and the unfunded, Treasury bills. The two classes are defined by the difference in currency, the funded debt being long-dated loans, and the unfunded, short-dated loans. Originally the term "funded" was applied only to interminable stocks, the amount of which, £532,889, is, as compared with the total debt, unimportant; but it is now the practice to apply this term also to redeemable debts. The amounts outstanding on the 30th June, 1901, under each class, and the total debt, were as follow :—

| Description of Stock. | Amount outstanding, 30th June, 1901. | | Annual Interest thereon. |
|---|---|---|---|
| Funded Debt— | £ | £ | £ |
| Debentures— | | | |
| Overdue, or unpresented, which have ceased to bear interest | 1,650 | ..... | ..... |
| Still bearing interest | 9,246,200 | ..... | 380,216 |
| N. S. Wales 4 per cents. (Interminable) | 530,190 | ..... | 21,208 |
| ,, Funded Stock, 56 Vic. No. 1 | 2,549,350 | ..... | 101,974 |
| ,, ,, ,, 58 Vic. No. 14 | 863,947 | ..... | 25,918 |
| ,, ,, ,, 59 Vic. No. 6 | 1,332,945 | ..... | 39,988 |
| ,, ,, ,, 60 Vic. No. 32 | 1,802,510 | ..... | 54,075 |
| ,, 1924 Stock | 198,065 | ..... | 5,942 |
| ,, 1925 ,, | 222,255 | ..... | 6,668 |
| Inscribed Stock | 44,512,500 | ..... | 1,578,869 |
| ,, Advances to Settlers Act | 220,050 | ..... | 6,602 |
| Total, Funded Debt | ..... | 61,479,662 | ..... |
| Unfunded Debt— | | | |
| Treasury Bills (for Loan Services)— | | | |
| Overdue or unpresented, which have ceased to bear interest | 4,000 | ..... | ..... |
| For Public Works | 4,000,000 | ..... | 150,000 |
| Treasury Bills (Deficiency in Revenue) | 1,877,584 | ..... | 58,522 |
| Total, Unfunded Debt | ..... | 5,881,584 | ..... |
| Total Public Debt | ..... | 67,361,246 | 2,429,982 |

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The following table shows the total amount of stock under each rate of interest. The stock bearing 6 per cent. represents the loans raised by the Municipality of Sydney for water and sewerage works, now taken over by the State. With the exception of municipal loans to the amount of £2,300 due in 1905, £58,000 due in 1904, and £2,700 in permanent stock, all the loans bearing 6 and 5 per cent. interest will mature in or before 1902. There were, however, also overdue 5 per cent. debentures to the amount of £1,650 outstanding on the 30th June, 1901, which have ceased to bear interest:—

| Interest—Per cent. | Amount of Stock. | Annual Interest thereon. |
|---|---|---|
| | £ | £ |
| 6 ..... | 92,000 | 5,520 |
| 5 ..... | *852,550 | 42,545 |
| 4½ ..... | 3,700 | 167 |
| 4 ..... | †23,288,940 | 931,398 |
| 3½ ..... | 31,326,200 | 1,096,417 |
| 3 ..... | 11,797,856 | 353,935 |
| Total..... | 67,361,246 | 2,429,982 |

* Includes £1,650 overdue debentures. † Includes £4,000 overdue Treasury Bills.

The 3 per cents. comprise the £1,500,000 Inscribed Stock, floated in London during January, 1898, and Inscribed Stock, floated in London under 50 Vic. No. 28, 52 Vic. No. 17, 53 Vic. No. 23, and 59 Vic. No. 5,; Funded Stock raised locally under Acts 58 Vic. No. 14, 59 Vic. No. 6, 60 Vic. No. 32, and 62 Vic. No. 1; and Treasury bills representing Trust Funds in the hands of the Government, and so invested. The whole of these Treasury bills bore interest at the rate of 4 per cent. to December 31, 1894, but the rate of interest on a large proportion was reduced to 3 per cent. from the 1st January, 1895.

## Dates of Maturity.

The dates of repayment extend from 1901 to 1935; the sums repayable in the different years vary considerably in amount, the largest sum in any one year being £16,698,065 in 1924. The redemption of such a large amount in one year is happily far distant, and before it arrives a more satisfactory procedure in dealing with loans falling due will be devised than now obtains. The question of the consolidation of loans has received some attention, and any scheme of consolidation adopted will probably provide for the principle of redemption over a specified time, at the option of the Government, and not on a given day as is the present practice.

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The following table shows the due dates and the amount repayable in each year :—

| Class of Security. | Interest Rate. | Amount raised in— London. | Amount raised in— Sydney. | Total Outstanding. | Year when Due. |
|---|---|---|---|---|---|
| | | £ | £ | £ | |
| Debentures | 5 | 1,550 | 100 | 1,650 | Overdue. |
| ,, | 5 | .... | 374,900 | | |
| ,, | 6 | .... | 30,000 | 420,900 | 1901. |
| ,, | 5 | 16,000 | .... | | |
| ,, | 5 | .... | 392,300 | | |
| ,, | 6 | .... | 50,700 | 459,000 | 1902. |
| ,, | 4 | 1,000,000 | | | |
| ,, | 4½ | 3,700 | .... | 1,003,700 | 1903. |
| ,, | 5 | 58,000 | .... | 58,000 | 1904. |
| ,, | 6 | .... | 2,800 | | |
| ,, | 4 | 901,500 | .... | 903,800 | 1905. |
| ,, | 4 | .... | 224,900 | 224,900 | 1906. |
| ,, | 4 | .... | .... | 2,865,500 | 1908. |
| ,, | 4 | 3,249,500 | .... | 384,000 | 1909. |
| ,, | 4 | 2,863,700 | .... | 2,863,700 | 1910. |
| ,, | 4 | 60,000 | .... | 60,000 | |
| N.S.W. Funded Stock | 4 | .... | 2,549,350 | 2,549,350 | 1912. |
| ,, | 3 | .... | 3,999,402 | 3,999,402 | |
| Inscribed Stock | 3½ | 12,826,200 | .... | 12,826,200 | 1918. |
| ,, ,, | 3 | .... | 220,050 | 220,050 | 1919. |
| ,, ,, | 3½ | 16,500,000 | .... | 16,500,000 | 1924. |
| N.S.W. 1924 Stock | 3 | .... | 198,065 | 198,065 | |
| ,, 1925 ,, | 3 | .... | 222,255 | 222,255 | 1925. |
| Inscribed Stock | 4 | 9,636,300 | .... | 9,636,300 | 1933. |
| ,, | 3 | 5,500,000 | .... | 5,500,000 | 1935. |
| N.S.W. 4 per cents. | 4 | .... | 530,190 | 530,190 | Interminable. |
| Permanent Debentures | 5 | .... | 2,700 | 2,700 | Permanent. |
| Funded Debt | .. | 52,666,450 | 8,813,212 | 61,479,662 | |
| Treasury Bills (Defic. of Rev.) | 3 | .... | 1,658,084 | 1,658,084 | £150,000 redeemed annually. |
| ,, ,, | 4 | .... | 219,500 | 219,500 | |
| ,, ,, (For Loan Services) | 4 | 4,000 | .... | 4,000 | Overdue. |
| ,, ,, (For Public Works) | 4 | 1,000,000 | .... | 1,000,000 | 1902. |
| ,, ,, ,, ,, | 4 | 1,000,000 | .... | 1,000,000 | 1905. |
| ,, ,, ,, ,, | 3½ | .... | 1,000,000 | 1,000,000 | 1905. |
| ,, ,, ,, ,, | 3½ | .... | 1,000,000 | 1,000,000 | 1906. |
| Unfunded Debt | .. | 2,004,000 | 3,877,584 | 5,881,584 | |
| Total Public Debt | .. | 54,670,450 | 12,690,796 | 67,361,246 | |

As will be seen in the above table, New South Wales is indebted to the London market for almost the whole of the money raised under loan. This dependence on the English market was originally due to the lack of local capital ; but of late years, when such capital has been fairly abundant, the Government has still turned to London, where the rate of interest at which it could borrow was much below what would have been demanded by the local capitalists. The local and English rates are now much nearer than at any period in the history of Australia, and it is probable that the Government could place small loans almost as advantageously in Sydney as in London.

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## Financial Agents.

Since the inception of responsible government, the state has had special local and London agencies to conduct its banking business. The Bank of New South Wales was first appointed, and under its auspices the first external loan of 1854 was issued. The Oriental Bank Corporation negotiated all subsequent loan issues until 1869, when the Bank of New South Wales again took up the management of loan operations in London. In 1884 the business was transferred to the Associated Banks, which were represented in England by the London and Westminster Bank. On the 31st December, 1889, the agreement with the Associated Banks came to an end, and on the first day of the succeeding year the London and Westminster Bank became the state's authorised agent to transact such financial business connected with the London account as was not undertaken by the Bank of England, while the Associated Banks divided amongst them the local business. This arrangement continued until the crisis in 1893, when the Bank of New South Wales again became sole local agent for the Government. During 1895–6 a current account was opened at the City Bank of Sydney, and during 1896–7 a similar account was opened at the Commercial Banking Company of Sydney, Limited.

The Bank of England has been the state's agent for the issue and management of stock since 1884, although this institution inscribed the bulk of the loan of 1882 and the two issues of 1883, negotiated in London by the Bank of New South Wales. Its charges for negotiation and management are, however, higher than those of the London and Westminster Bank, which acts in a similar capacity for Victoria, Western Australia, and Tasmania. The prestige of the former institution no doubt influenced the Government in its choice of an agent. Outside inscribed stock transactions the Government prefers accepting aid from other banks in issuing loans, and accordingly the London and Westminster Bank during 1892 and 1893 issued and negotiated £3,250,000 Treasury bills.

## Charges on Floating Loans.

The charges incidental to the floating of an inscribed stock loan in England are heavy. The chief expense is the composition duty of 12s. 6d. per cent. to the British Government on inscribed stock. The other charges—bank commission, ½ per cent.; brokerage, ¼ per cent.; and minor expenses which amount to about 1s. per cent.—are for services rendered.

The expenses incurred for the inscription and management of stock by the Bank of England, through which New South Wales makes its issues, including the payment of the half-yearly dividends, are £500

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per million for the first ten millions, £450 for the next five, and £400 per million for all subsequent amounts. Prior to March, 1895, the charges were £100 per million more in each case. From May, 1899, all amounts raised through the agency of the Bank of England are charged £200 per million.

The subjoined statement gives the charges of negotiation of the two last loans issued by the state in debenture form and of the inscribed stock loans floated during the period 1883–98:—

| Year when Floated. | Amount of Principal. | Gross Proceeds. | Charges. | | | | Expenses per £100 of— | |
|---|---|---|---|---|---|---|---|---|
| | | | Stamp Duty. | Bank Commission. | Brokers' Commission, Postage, and Petty Expenses. | Total. | Principal. | Gross Proceeds. |
| | £ | £ | £ | £ | £ | £ | £ | £ |
| **Issued (in London) as Debentures.—Bank of New South Wales.** | | | | | | | | |
| 1881 | 2,050,000 | 2,120,697 | 2,562 | 3,813 | 5,298 | 11,673 | 0 11 5 | 0 11 1 |
| 1882 | 2,000,000 | 2,042,968 | 2,500 | 3,750 | 5,189 | 11,439 | 0 11 5 | 0 11 2 |
| **Issued (in London) as Inscribed Stock.—Bank of England.** | | | | | | | | |
| 1883 | 3,000,000 | 3,001,067 | 18,750 | 5,000 | 7,500 | 31,250 | 1 2 0 | 1 2 0 |
| 1883 | 3,000,000 | 3,018,791 | 18,750 | 5,000 | 7,809 | 31,559 | 1 2 3 | 1 2 1 |
| 1884 | 5,500,000 | 5,152,386 | 34,375 | 27,500 | 14,289 | 76,164 | 1 7 8 | 1 9 7 |
| 1885 | 5,500,000 | 5,042,041 | 34,375 | 27,500 | 14,436 | 76,311 | 1 7 9 | 1 10 3 |
| 1886 | 5,500,000 | 5,247,692 | 34,375 | 27,500 | 14,481 | 76,356 | 1 7 9 | 1 9 1 |
| 1888 | 3,500,000 | 3,626,341 | 21,875 | 17,500 | 9,380 | 48,755 | 1 7 10 | 1 6 11 |
| 1889 | 3,500,000 | 3,584,105 | 21,875 | 17,500 | 9,379 | 48,754 | 1 7 10 | 1 7 3 |
| 1891 | 4,500,000 | 4,276,030 | 28,125 | 22,500 | 11,784 | 62,409 | 1 7 9 | 1 9 2 |
| 1891 | 294,200 | 294,200 | 1,839 | 176 | 696 | 2,711 | 0 18 5 | 0 18 5 |
| 1893 | 200,000 | 191,350 | 1,250 | Nil. | 500 | 1,750 | 0 17 6 | 0 18 4 |
| 1893 | 2,500,000 | 2,514,861 | 15,625 | 12,500 | 6,853 | 34,978 | 1 8 0 | 1 7 10 |
| 1894 | 832,000 | 846,433 | 5,200 | 4,160 | 2,875 | 12,235 | 1 9 5 | 1 8 11 |
| 1895 | 4,000,000 | 3,876,605 | 25,000 | 20,000 | 10,721 | 55,721 | 1 7 10 | 1 8 9 |
| 1898 | 1,500,000 | 1,506,269 | 9,375 | 7,500 | 4,441 | 21,316 | 1 8 5 | 1 8 4 |

## Redemptions and Sinking Funds.

Loans are either redeemed or renewed. In the former case, the amount of the obligations of the state to its public creditors is reduced; in the latter case the liability remains the same. Repayments, however, are chiefly effected under the head of renewals. The following

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statement gives the particulars to 30th June, 1901, of each loan for which redemption is provided by sinking fund or annual drawings. It will be seen that a very small part of the outstanding loans is subject to redemption in this manner :—

| Loan. | Amount of Issue. | Annual Sinking Fund. | Accumulated Sinking Fund. | Amount outstanding on 30 June, 1899. |
|---|---|---|---|---|
| | £ | £ | £ | £ |
| Railway Loan (53 Vic. No. 24) ..... | 1,000,000 | 75,000 | 225,000 | 250,000 |
| Treasury Bills in aid of Revenue— | | | | |
| First Issue (1889-1890)..... | 2,502,884 | 150,000 | ..... | 852,884 |
| Second Issue (1896) ..... | 1,174,700 | | | 1,024,700 |
| N.S.W. 1924 Stock ..... | 198,065 | 6,602 | 39,613 | 158,452 |
| ,, 1925 ,, ..... | 222,255 | 7,409 | 44,451 | 177,804 |
| ,, 1927 ,, ..... | 208,123 | 6,937 | 27,750 | 180,373 |
| ,, 1928 ,, ..... | 224,747 | 7,492 | 22,475 | 202,272 |
| ,, 1929 ,, ..... | 333,650 | 11,122 | 22,243 | 311,407 |
| ,, 1930 ,, ..... | 145,540 | 4,851 | 4,851 | 140,689 |
| Newcastle Water Supply ..... | 16,000 | ..... | 3,788 | 12,212 |

Under the Railway Loans Redemption Act of 1889, it is provided that during each year £75,000 shall be set apart for the reduction of the public debt for railways. On the 30th June, 1896, the fund amounted to £375,000, which was used to pay off debentures in accordance with the Act, while in 1897-8 the amount accumulated to 30th June, 1898, £150,000, was applied in redemption of the balance of Railway Loan, 31 Vic. No. 11. The accumulation to the credit of the fund on the 30th June, 1901, was £225,000. The principle of extinguishing the public debt by the operation of sinking funds has never found much favour with the Treasurers of the state. There is, however, a disposition to apply the system to all cases where the work carried out by borrowed money is not of a permanent character, or is for the relief of the ordinary revenue. In the Loan Fund Act of 1894 provision was therefore made for an annual sinking fund to redeem a proportion of the loan proposed to be raised, and a similar provision was made in the Loan Acts of 1895, 1896, 1897, 1898, and 1899. In accordance with the provisions of the Acts authorising their issue, sinking funds have been created in connection with the 1927, 1928, 1929, and 1930 New South Wales stock, but to the 30th June, 1901, no sales thereof had been effected. In connection with the loan of £16,000 taken over by the

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Government in 1893 from the Municipal Council of Newcastle, a sum of £3,788 had accumulated for the purpose of redeeming the debentures, but the Act enabling the Government to take over the waterworks and debenture debt made no provision for further contributions to the fund. It may be mentioned that the system of establishing sinking funds is not favourably entertained in the other states, judging from the way in which it has been practically abandoned.

## QUOTATIONS FOR STOCK.

The standard of the state's credit can be gauged either from the prices obtained by original investors in loans, or from the prices quoted on the market for New South Wales representative stock. The ordinary stock transactions on the London Exchange are perhaps a better guide, as unless the market quotations are disturbed by the issue of a loan by New South Wales itself, or by any other state of the Australasian group, the standard of credit can be established daily, and consequently up to date.

The following table shows the monthly quotations during 1900–1901 on the London market for the £16,500,000 3½ per cent. inscribed stock maturing October, 1924 :—

| Date. | | Average of Buying and Selling Price. | | Annual Rate per £100 sterling yielded to investors if stock is held till date of maturity. |
|---|---|---|---|---|
| Month. | Day. | "Cum Dividend." | "Ex Dividend." | |
| 1900. | | | | £ s. d. |
| July | 7th | 104 | 103·07 | 3 7 2½ |
| August | 4th | 103 | 101·80 | 3 8 8¼ |
| September | 1st | 104 | 102·53 | 3 7 11 |
| October | 6th | 104 | 103·95 | 3 6 5¼ |
| November | 3rd | 104 | 103·68 | 3 6 8½ |
| December | 1st | 104 | 103·42 | 3 7 0 |
| 1901. | | | | |
| January | 5th | 103 | 102·08 | 3 8 4½ |
| February | 2nd | 103 | 101·81 | 3 8 8 |
| March | 2nd | 104 | 102·54 | 3 7 10½ |
| April | 6th | 102 | 101·95 | 3 8 7 |
| May | 4th | 103 | 102·68 | 3 7 8½ |
| June | 1st | 103 | 102·42 | 3 8 0 |

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The foregoing table indicates fluctuations in the stocks of the state during the twelve months, and at the close of the financial year they were quoted at a lower figure than at the opening. On the 7th July, 1900, stocks were quoted at a premium of £3 1s. 4d. against a premium of £2 8s. 4d. in June, 1901.

Transactions in Government securities on the Sydney Stock Exchange are almost entirely confined to the new funded stock, issued under Act 56 Vic. No. 1. Quotations for debentures and old funded stock are rare. The prices of the new funded stock due 1912 for each month of 1900–1901 will be found in the following table :—

| Date. | | Buying Price. | | Annual rate per £100 sterling yielded to investors if stock is held till date of maturity. |
|---|---|---|---|---|
| Month. | Day. | "Cum Dividend." | "Ex Dividend." | |
| 1900. | | | | £ s. d. |
| July | 12th | 108 | 106·33 | 3 9 5½ |
| August | 9th | 108 | 106·03 | 3 9 11 |
| September | 13th | 106 | 105·63 | 3 10 7 |
| October | 11th | 105 | 104·32 | 3 12 10¼ |
| November | 15th | 105 | 103·94 | 3 13 6 |
| December | 13th | 106 | 104·63 | 3 12 2¼ |
| 1901. | | | | |
| January | 21st | 106 | 104·20 | 3 12 11 |
| February | 14th | 104½ | 104·46 | 3 12 5 |
| March | 14th | 104 | 103·65 | 3 13 10¼ |
| April | 11th | 104½ | 103·84 | 3 13 5¼ |
| May | 21st | 105 | 103·90 | 3 13 3½ |
| June | 13th | 105½ | 104·15 | 3 12 9¼ |

The following table shows the amounts of stock registered in the states and in London. The amount available on the Sydney market is only £6,158,203, and of this sum £221,900 represents debentures,

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and £126,941 old funded stock, which, as already mentioned, are not quoted regularly :—

| Class of Stock. | Amount Registered in— | | | | Annual Interest payable in— | | | Total Annual interest payable. |
|---|---|---|---|---|---|---|---|---|
| | New South Wales. | | | | | | | |
| | Purchased from Trust Funds held by Treasury. | Taken up in Open Market. | Victoria. | London. | New South Wales. | Victoria. | London. | |
| | £ | £ | £ | £ | £ | £ | £ | £ |
| Debenture Bonds .... | 224,400 | 221,900 | 61,500 | 8,740,050 | 21,168 | 3,075 | 355,973 | 380,216 |
| N.S.W. 4 per Cents. (Old Funded Stock) | 403,249 | 126,941 | .... | ..... | 21,208 | .. | .... | 21,208 |
| N.S.W. Funded Stock— | | | | | | | | |
| 56 Vic. No. 1 ..... | 1,147,260 | 1,402,090 | .... | ..... | 101,974 | .. | .... | 101,974 |
| 58 Vic. No. 14 ..... | 30,000 | 833,947 | .... | ..... | 25,918 | .. | .... | 25,918 |
| 59 Vic. No. 6 ..... | 880,000 | 452,945 | .... | ..... | 39,988 | .. | .... | 39,988 |
| 60 Vic. No. 32 ..... | 1,032,500 | 770,010 | .... | ..... | 54,075 | .. | .... | 54,075 |
| N.S.W. 1924 Stock .. | 20,000 | 178,065 | .... | ..... | 5,942 | .. | .... | 5,942 |
| N.S.W. 1925 Stock .. | 150,000 | 72,255 | .... | ..... | 6,668 | .. | .... | 6,668 |
| Inscribed Stock ..... | ..... | ..... | .... | 44,512,500 | .... | .. | 1,578,869 | 1,578,869 |
| Inscribed Stock (Advances to Settlers' Act) ..... | 100,000 | 120,050 | .... | ..... | 6,602 | .. | .... | 6,602 |
| Treasury Bills— | | | | | | | | |
| 53 Vic. No. 9 ..... | 852,884 | ..... | .... | ..... | 27,781 | .. | .... | 27,781 |
| 55 Vic. No. 7 ..... | ..... | ..... | .... | * 4,000 | .... | .. | .... | ..... |
| 59 Vic. No. 22 ..... | 1,024,700 | ..... | .... | ..... | 30,741 | .. | .... | 30,741 |
| 63 Vic. No. 46 ..... | 20,000 | 1,980,000 | .... | 2,000,000 | 70,000 | .. | 80,000 | 150,000 |
| Public Debt on 30th June, 1901 ..... | 5,884,993 | 6,158,203 | 61,500 | 55,256,550 | 412,065 | 3,075 | 2,014,842 | 2,429,982 |

* Overdue.

The owners of debentures are not known, as the bonds are transferable by delivery ; the locality of holders, however, can be established by the registration of the numbers of the interest coupons at the respective agencies.

## Character of Stock Issued.

As will be seen on page 841, loans have been raised by Treasury bills, debentures, and stock. The Treasury bills are of a temporary character, and will in the course of a few years disappear from the statement of the public debt, either by substitution of ordinary stock in lieu of them when the temporary purpose for which they were issued has been served, or by redemption on maturity. The practice of issuing Treasury bills, either in anticipation of, or to make good, deficiencies in revenue, is an old-established one ; but, as will be seen later on, they have been made to serve another purpose, and money has been raised by their sale to meet certain obligations for public works. This is an innovation which could not be well avoided in the disturbed markets of the last few years. The Treasury bills are like the British Treasury bills in name only, but they have some points in common with the British Exchequer bills. The amount current on the 30th June, 1901, was £5,881,584, of which sum £1,877,584 represents bills in aid of revenue, and £4,004,000 those



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issued for loan services. From 1842 to 1883 the practice followed was to raise loans by debenture bonds. In the year last named, however, the Inscribed Stock Act was passed, in conformity with the provisions of the Imperial "Colonial Stock Act of 1877," and the system of raising loans by debentures was abolished. The amount of debentures outstanding on the 30th June, 1901, was £9,247,850, which is considerably less than one-fifth of the inscribed stock current.

The issue of funded stock, which may be more appropriately termed registered stock, is regulated by four Acts—one passed in 1873, one in 1892, one in 1894, and the other in 1895. Stock issued under the former Act is interminable, while that issued under the more recent Acts may be redeemed at the option of the Government, at the expiration of twenty years from the date on which the Act was passed, on the Treasurer giving twelve months' notice of his intention to redeem.

Under the Act of 1873 the Government was authorised to raise by a local loan a sum of £509,780, the stock to be known as the "New South Wales 4 per cents." The amount of stock sold in order to raise this sum was £530,190, which, together with £2,700 raised under another Act, represents the total amount of the interminable stock of the state.

The Funded Stock Act of 1892 authorised the issue of stock to the amount of £3,000,000, redeemable in 1912. The rate of interest was fixed at 4 per cent., at a minimum price of par, while the purchasers were afforded the privilege of purchasing amounts as low as £10, or any multiple of that figure. The amount sold to 30th June, 1901, was £2,549,350, leaving stock to the amount of £450,650 yet to be raised.

The Loan Acts 58 Vic. No. 14, 59 Vic. No. 6, 60 Vic. No. 32, 43 of 1897, 36 of 1898, and 42 of 1899, passed in 1894, 1895, 1896, 1897, 1898 and 1899 respectively, provided for the establishment of other local stocks. The stocks under the first-mentioned Act are known as New South Wales 1924 Stock and Funded Stock, the latter running *pari passu* with the Stock floated under 56 Vic. No. 1, the amounts outstanding on 30th June, 1901, being £198,065 and £863,947 respectively; the stocks under the 1895 Act are known as New South Wales 1925 Stock and Funded Stock, the latter also being subject to the same conditions as that floated under 56 Vic. No. 1. The amounts outstanding on the 30th June, 1901, were £222,255 and £1,332,945 respectively. The stocks under the 1896 Act are known as New South Wales 1927 Stock and Funded Stock, and are subject to conditions similar to those imposed in respect of the issues under the 1894 and 1895 Acts. Up to the 30th June, 1901, sales of funded stock had been effected to the extent of £1,802,510. No sales of 1927 Stock have yet taken place. The rate of interest chargeable on the four loans just specified is 3 per cent. per annum. The stocks under the 1897, 1898 and 1899 Acts have not yet been floated.

The Inscribed Stock Act was passed during 1883, and the first issue under the new conditions took place during the same year; but the

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Act coming into force shortly after the negotiation of the £2,000,000 debenture loan of 1882, the holders of the scrip had the option of exchanging the bonds for inscribed stock, a privilege which was availed of to the extent of £1,186,300. The total amount of inscribed stock issued to the 30th June, 1901, was £42,832,000, and the amount of the debenture bonds converted into the new scrip to that date was £1,680,500, making a total of £44,512,500 inscribed.

The Colonial Stock Act was passed by the Imperial Government in 1877, and provides for the inscription and transfer of stock raised in the United Kingdom, and for stamp duty to be levied thereon. It also defines the position of the British Government as regards Colonial indebtedness, and provides that every document connected with stock transactions shall have printed upon it a distinct intimation that no liability direct or indirect is incurred by the British Government in respect to such stock, unless the loan is under Imperial guarantee.

## Issue of Treasury Bills.

The Treasury bills current, as previously mentioned, include those raised to meet accumulated deficiencies in revenue, and those issued for loan services. The first portion of the former were issued during 1889 and 1890 under authority of an Act passed in the former year, the amount of the issue being £2,502,884. The Bills were not issued to the public, as the Treasury had large sums belonging to various trusts awaiting investment. The amount of this deficiency loan outstanding at the middle of 1901 was £852,884. The second issue of deficiency bills took place in 1895, the total amount being £1,174,700; this sum however was found to be £150,000 in excess of that required, and consequently bills to that value were cancelled during 1896–7. The bills were taken up by the Treasury as in the former case, and the same arrangements for the extinction of the amount have been made. The other class of Treasury bills were issued for the purpose of raising funds which, under other circumstances, would have been obtained by ordinary loan. As late as 1890 New South Wales could borrow in London on very favourable terms; but a reaction was setting in, and in 1892, when it became necessary to borrow, the conditions were most unfavourable. The state was entirely unprepared for the changed circumstances, as it was committed to engagements for the construction of public works, and contracts had been accepted on the assumption that funds would be available. To tide over the difficulty, the Government, during the years 1892-3, issued Treasury bills to the amount of £4,000,000, under the authority of the Act 55 Vic. No. 7, passed in December, 1891, and £3,250,000 were placed on the market, through the medium of the London and Westminster Bank, and the balance, £750,000, taken up by the Savings Bank of New South Wales. Of these bills there are £4,000 outstanding, overdue and not presented.

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In 1900, the London market was again unfavourable to the flotation of a long-dated loan, owing to the South African war having affected the operations in stocks, and the Government was compelled to resort to the expedient of issuing Treasury Bills. Accordingly, authority was obtained under Act 46 of 1899 for the issue of bills to the amount of £4,000,000, and of these £1,000,000 were sold in London in 1900 at 4 per cent., and £500,000 in Sydney at 3½ per cent. interest. The balance, viz., £2,500,000 were sold in 1901, £1,000,000 at 4 per cent. in London, while £1,500,000, in three instalments of £500,000 each, were issued locally at 3½ per cent. The proceeds of these bills have been used for the General Loan Services of the state.

The following table gives the particulars of the various issues of Treasury bills, all of which, with the exception of the amounts at 3, 3½, and 4¼ per cent., were negotiated in London :—

| Date. | | Class of Security. | Nominal Rate of Interest per cent. | Amount of Principal. | Net proceeds after expenses and accrued interest have been met. | Rate per £100 sterling. | |
|---|---|---|---|---|---|---|---|
| When Floated. | When Payable. | | | | | Paid by Government, allowing for redemption at par on maturity. | Yielded to original investors if stock is held till date of maturity. |
| | | | | £ | £ | £ s. d. | £ s. d. |
| 1890 | .. | Treasury Bills (in aid of revenue) | 3 | 1,907,100 | 1,907,100 | 3 0 0 | 3 0 0 |
| 1891 | .. | do do | 3 | 595,784 | 595,784 | 3 0 0 | 3 0 0 |
| 1895 | .. | do do | 3 | 1,174,700 | 1,174,700 | 3 0 0 | 3 0 0 |
| 1892 | 1894 | Treasury Bills for loan services) | 4 | 1,250,000 | 1,239,998 | 4 9 2½ | 4 6 0½ |
| 1892 | 1896 | do do | 4 | 1,000,000 | 998,750 | 4 1 5½ | 3 19 10½ |
| 1892 | 1896 | do do | 4 | 263,500 | 262,510 | 4 2 9½ | 4 0 0 |
| 1892 | 1896 | do do | 4¼ | 750,000 | 750,000 | 4 5 0 | 4 5 0 |
| 1893 | 1896 | do do | 4 | 10,800 | 10,759 | 4 3 5½ | 4 0 0 |
| 1893 | 1896 | do do | 4 | 725,700 | 721,050 | 4 5 3½ | 4 0 6 |
| 1899-1900 | 1902 | do (for Public Works) | 4 | 1,000,000 | 991,250 | 4 9 11¾ | 4 6 0½ |
| 1899-1900 | 1905 | do do | 3½ | 500,000 | 500,740 | 3 10 7½ | 3 9 6 |
| 1900-1901 | 1905 | do do | 4 | 1,000,000 | 986,250 | 4 8 1 | 4 6 1 |
| 1900-1901 | 1905 | do do | 3½ | 500,000 | 499,615 | 3 10 11¼ | 3 10 3½ |
| 1900-1901 | 1906 | do do | 3½ | 500,000 | 498,562 | 3 11 9½ | 3 11 4½ |
| 1900-1901 | 1906 | do do | 3½ | 500,000 | 496,829 | 3 13 3½ | 3 12 9 |

The 1890 and 1891 issues were originally placed at 4 per cent., but as the money representing their purchase was entirely at the disposal of the Treasury, being trust funds, the interest on all but £219,500 was reduced to 3 per cent. from 1st January, 1895. The amount at 4¼ per cent. was a loan by the Savings Bank of New South Wales.

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### Issue of Loans.

Since 1891 five loans, forming part of the Funded Debt, have been placed in London, and with the exception of the last two the greater part of the proceeds was required for redemption purposes. In October, 1893, a loan of £2,500,000, bearing interest at 4 per cent., at a minimum of 98½, was issued in London. The average price realised was £100 11s. 10½d. The total amount subscribed was £6,465,000, and the gross proceeds amounted to £2,514,861. The actual interest paid by the Government, after allowing for charges, and redemption at par on maturity, is £4 3s. 0½d. per £100.

In September, 1894, a loan of £832,000 was floated for the purpose of renewing two small loans maturing on the 1st January, 1895. The minimum was fixed at par, and the loan was subscribed over five-fold. The actual rate per £100 sterling payable by the Government, after allowing for charges and redemption at par on maturity, is £3 10s. 11d. while the rate yielded to investors, also allowing for redemption at par, is £3 9s. 4¼d.

In October, 1895, a loan of £4,000,000 at 3 per cent. was floated in London, of which no less than £3,352,400 were required for redemption purposes. The minimum price fixed was 94, and the average realised was £96 18s. 3½d. The actual rate paid by the Government per £100 is £3 4s. 3½d. while the yield to the investors is £3 3s. 2¼d. In January, 1898, a loan of £1,500,000, at 3 per cent., was floated in London. The minimum price fixed was 99, and the average price realised was £100 8s. 4d. The actual rate paid by the Government per £100 is £3 1s. 6d., while the yield to investors is £3 0s. 4½d.

The last loan raised in London was the £4,000,000 at 3 per cent., floated in September, 1901. The minimum price fixed was 94, the proceeds of the loan to be expended upon works in connection with the resumption of water frontages, the construction of wharves, &c., at Darling Harbour, and upon other public works. The loan matures in 1935, and ranks *pari passu* with the New South Wales 3 per cent. 1935 stock already existing. The gross proceeds amounted to £3,760,000, and the amount credited to the General Loan Account, after deducting all charges and accrued interest was £3,644,918, or £91 2s. 6d. per £100. The actual rate payable by the Government, allowing for redemption, is £3 9s., while the yield to investors is £3 5s. 10d.

The Funded Stock Acts were passed in 1892, 1894, 1895, 1896, 1897, 1898, and 1899 respectively. The first sales under the 1892 Act were effected on the 8th November, 1892, and from that date to the 31st December of the same year stock to the amount of £227,000 was disposed of. On the 30th June, 1901, the total amount sold under this Act was £2,549,350, while the amount sold under the 1894 Act to the same date was £863,947, under the 1895 Act £1,332,945, and under

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the 1896 Act £1,802,510 The cost of the issues was practically nil, except the ¼ per cent. paid for brokerage, and even this was only payable in respect of a portion of the issue, the bulk of the stock being taken direct from the Treasury. During 1894, 1895, and 1896, small parcels were sold by the Government at a slight premium. The stocks under the 1897, 1898, and 1899 Acts have not yet been floated.

The following table shows the cost to the Government and the yield to investors per £100 sterling on each of the issues from 1881 to 1901 :—

| Date. | | Nominal Rate of Interest per cent. | Amount of Principal. | Net Proceeds after Expenses and Accrued Interest have been met. | Rate per £100 sterling. | |
|---|---|---|---|---|---|---|
| When Floated. | When Payable. | | | | Paid by Government, allowing for redemption at par on maturity. | Yielded to original investors if stock is held till date of maturity. |
| | | | £ | £ | £ s. d. | £ s. d. |
| | | | Debentures. | | | |
| 1881 | 1910 | 4 | 2,050,000 | 2,095,973 | 3 18 6¼ | 3 17 11½ |
| 1882 | 1933 | 4 | 2,000,000 | 2,012,154 | 4 0 2½ | 3 19 9½ |
| | | | Inscribed stock. | | | |
| 1883 | 1933 | 4 | 3,000,000 | 2,935,909 | 4 2 8¼ | 4 1 9¼ |
| 1883 | 1933 | 4 | 3,000,000 | 2,958,831 | 4 2 0 | 4 1 1 |
| 1884 | 1924 | 3½ | 5,500,000 | 5,024,458 | 3 18 4½ | 3 17 0½ |
| 1885 | 1924 | 3½ | 5,000,000 | 4,921,878 | 4 0 3 | 3 18 11 |
| 1886 | 1924 | 3½ | 5,500,000 | 5,074,026 | 3 17 7½ | 3 16 3¾ |
| 1888 | 1918 | 3½ | 3,500,000 | 3,543,177 | 3 9 5¼ | 3 8 2 |
| 1889 | 1918 | 3½ | 3,500,000 | 3,498,020 | 3 10 8 | 3 9 4 |
| 1891 | 1918 | 3½ | 4,500,000 | 4,186,144 | 3 18 0 | 3 16 5½ |
| 1891 | 1918 | 3½ | 494,200 | 459,732 | 3 18 0 | 3 16 5½ |
| 1893 | 1933 | 4 | 2,500,000 | 2,440,549 | 4 3 0½ | 4 1 8½ |
| 1894 | 1918 | 3½ | 832,000 | 829,551 | 3 10 11 | 3 9 4¼ |
| 1895 | 1935 | 3 | 4,000,000 | 3,804,573 | 3 4 3½ | 3 3 2¼ |
| 1898 | 1935 | 3 | 1,500,000 | 1,479,746 | 3 1 6 | 3 0 4½ |
| 1895–6 | 1924 | 3 | 20,000 | 20,000 | 3 0 0 | 3 0 0 |
| 1895–6 | 1925 | 3 | 50,000 | 50,000 | 3 0 0 | 3 0 0 |
| 1896–7 | 1924 | 3 | 178,065 | 177,651 | 3 0 8 | 3 0 0 |
| 1896–7 | 1925 | 3 | 172,255 | 172,135 | 3 0 6 | 3 0 0 |
| 1898–9 | 1919 | 3 | 220,050 | 219,400 | 3 0 8¾ | 3 0 0 |
| 1901 | 1935 | 3 | 4,000,000 | 3,644,918 | 3 9 0 | 3 5 10 |
| | | | Funded stock. | | | |
| 1892 | | 4 | 227,000 | 226,596 | 4 1 0¼ | 4 0 0 |
| 1893 | | 4 | 1,829,400 | 1,827,850 | 4 0 11 | 4 0 0 |
| 1894 | | 4 | 307,430 | 313,410 | 3 18 2 | 3 18 2 |
| 1895 | | 4 | 130,750 | 133,293 | 3 18 0½ | 3 18 0½ |
| 1895–6 | | 3 | 180,000 | 180,000 | 3 0 0 | 3 0 0 |
| 1896–7 | 1912 | 4 | 54,770 | 56,143 | 3 17 1 | 3 17 1 |
| 1896–7 | | 3 | 863,947 | 862,776 | 3 0 8 | 3 0 0 |
| 1896–7 | | 3 | 340,458 | 340,458 | 3 0 0 | 3 0 0 |
| 1897–8 | | 3 | 812,207 | 811,982 | 3 0 5¾ | 3 0 0 |
| 1897–8 | | 3 | 83,015 | 82,815 | 3 0 9¾ | 3 0 0 |
| 1898–9 | | 3 | 952,716 | 951,466 | 3 0 8½ | 3 0 0 |
| 1898–9 | | 3 | 280 | 280 | 3 0 0 | 3 0 0 |
| 1899–1900 | 1912 | 3 | 227,027 | 226,077 | 3 1 2 | 3 0 0 |
| 1900–1901 | 1912 | 3 | 539,753 | 539,653 | 3 0 5¾ | 3 0 0 |

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When the necessities of the Treasurer compelled him to borrow in 1891 to obtain funds to complete urgent public works, he was forced to accept a net price of 93, or £8 lower than the loan of 1888. In 1893, however, as previously mentioned, a 4 per cent. loan was floated at an average of £100 11s. 10½d., the actual rate paid by the Government after allowing for redemption at par being £4 2s. 4d.; while in 1894, the average price realised for the £832,000 3½ per cent. conversion loan was £101 14s. 8d., and the rate paid by the Government £3 10s. 3½d., which was about that given for the 1889 loan. The 3 per cent. loan floated in 1898, however, was by far the most successful, and the rates paid by the Government and yielded to the investor are even lower than those of the 1888 and 1895 loans, which were the most satisfactory till the 1898 loan was placed.

In the foregoing pages much has been said of the indebtedness of the state. It would, therefore, be only fair to say something of the resources on which the state may rely as security for the public creditors, but before examining the nature of these resources it may be well to recapitulate the liabilities outstanding. These are as follow :—

| | |
|---|---|
| Public Debt, including Treasury Bills for loan services... | £65,483,662 |
| Treasury Bills in aid of Revenue ..... | 1,877,584 |
| Uninvested Trust Funds ..... | 4,909,830 |
| Total..... ..... | £72,271,076 |

No allowance has been made in the foregoing figures for balances to credit of either loans or trust accounts, as money to the credit of the General Loan Account is allotted, and awaits expenditure on various services, whilst the Trust Funds are liabilities whether represented by securities or cash. The interest payable on the sum of £72,271,076 outstanding amounts to £2,571,456. The assets of the Government of the state are the public works, elsewhere described in this volume, which yield an income of £1,993,000 after all charges of maintenance and working have been defrayed; and the public lands, of which 126,085,000 acres are leased for pastoral or mining purposes, and 20,130,259 acres sold on deferred payments, the balance due in respect of which amounts to £10,305,902, bearing interest at the rate of 4 and 5 per cent. From the public estate there is obtained an annual revenue of about £1,227,000, or allowing £150,000 for administration, a net revenue of £1,077,000, so that the state has a revenue of £3,070,000, or £498,544 in excess of the whole charge for the public debt, without having to resort to taxation of any kind, and without parting with any more of the public lands. This fact alone ought to be evidence, if any such were wanted, of the ability of New South Wales to meet its engagements with the public creditors; but this is a point on which little need be said, for the security enjoyed by those who hold the debentures of the state lies more in the wealth and integrity of the people than in the actual possessions of the Government.

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# PRIVATE FINANCE.

A VERY careful estimate of the value of property in the state of New South Wales was made early in 1900, from which it would appear that such value was £356,350,000. The details of this estimate are as follow :—

| | £ |
|---|---|
| Land (unimproved value) | 143,669,000 |
| Houses and permanent improvements | 113,956,000 |
| Live stock | 29,147,000 |
| Furniture and household goods and effects | 10,795,000 |
| Personal effects | 4,117,000 |
| Machinery and implements of trade | 9,067,000 |
| Merchandise | 25,476,000 |
| Shipping | 2,034,000 |
| Mining properties and plant | 8,727,000 |
| Coin and bullion | 9,362,000 |

Besides the property falling under one or other of the descriptions in the foregoing list, there are other descriptions which must be considered in a valuation of this kind. These comprise chiefly shares and other interests in public companies and undertakings, the value of which is not represented by capital invested in land, buildings, machinery, etc. The case of gas companies may be cited as illustrating what is meant. The total value of the shares of, and interests in, these companies is £2,250,000; but in the statement of values of properties given above, the actual property of gas companies appears as—value of machinery, etc., £632,000; land, &c., £550,000; in all, £1,182,000, or £1,068,000 below the actual selling value of the gas undertakings of the country. Various allowances of this kind reach a total of £19,250,000, and this sum, added to £356,350,000 already arrived at, makes a total value of £375,600,000. An indirect method of estimating the value of private property is afforded by comparing the amount of property left by persons dying as disclosed by the returns for stamp duty. To use these returns to full advantage, they must be read in connection with the ages of the persons leaving estates, and the number of persons of like age amongst the general population. At present it is not possible to do this, and in the absence of the requisite information the average value of estates left by adults who died may be taken as approximately representing the average value of the estates of those who survived.

During the five years 1896–1900, there were 11,386 persons who died leaving property, the value of such property being £22,304,424, or £1,959 for each separate estate. The adult population at the Census of 1901 numbered 700,480, and of these, as will be subsequently shown, 26·8 per cent.—that is to say, 187,740 persons—were the possessors of property. Assuming the average value of estates to be £1,959, the total

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value of all property would be £367,782,660. The detailed estimate gives £375,600,000; but from this there must be deducted £10,300,000 due to the Crown by the holders of conditional selections under the various Lands Acts, so that, the actual sum for purposes of comparison would be £365,300,000. The results arrived at by such totally different methods are so close as to warrant confidence in the calculations on which they are founded. In round numbers, the value of property in New South Wales may be set down at 370 millions sterling.

The most interesting item of the estimate is that in regard to land. The figure given is £143,369,000. Deducting £10,300,000, representing balances due to the Crown by holders of conditional purchases, there is a net value of £133,069,000. The returns made under the provisions of the land tax show a total of about £115,000,000; but there is every reason to suppose that the valuations for purpose of taxation fall, on the whole, short of true values by more than 14 per cent., which would show that the present estimate is fairly exact.

The distribution of property is a matter of even more interest than its total valuation, and the probate returns afford an excellent though indirect method of arriving at an estimate of the number of persons possessing property, and the extent of their holdings. The following table gives the number of wills proved, and letters of administration granted, from 1865 to 1900. It also gives the number of estates compared with every hundred deaths of the whole population, of adult males and females, and of adult males :—

| Period. | Proportion of estates per 100 deaths of adult males. | Proportion of estates per 100 deaths of adults (males and females). | Proportion of estates per 100 deaths of total population. | Number of estates. |
|---|---|---|---|---|
| 1865–69 | 18·9 | 12·7 | 5·7 | 2,079 |
| 1870–74 | 22·7 | 15·0 | 7·5 | 2,747 |
| 1875–79 | 30·9 | 20·2 | 9·4 | 4,973 |
| 1880–84 | 34·6 | 22·3 | 11·0 | 6,825 |
| 1885–89 | 37·5 | 23·8 | 11·6 | 8,440 |
| 1890–94 | 41·2 | 25·8 | 13·2 | 10,027 |
| 1895–99 | 43·5 | 26·8 | 14·9 | 11,588 |
| 1900 | 43·2 | 26·9 | 16·2 | 2,452 |

The figures just given clearly point to the fact that year by year property is becoming more widely distributed, and this conclusion is borne out by figures which appear in other parts of this volume. In the period covered by the table, which may be taken as approximately thirty years, the proportion of persons holding property has increased more than two and a half fold; for whereas in 1865–69 not quite six persons out of a hundred held property, the proportionate number in 1895-99 was nearly fifteen, and this increase in distribution was accompanied by an increase of almost 54 per cent. in the value of the individual estates—a remarkable condition of progress, the equal of which it would be vain to look for in other countries.

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In some previous editions of this work it was assumed that few women held property worth taking into consideration in estimates founded on the probate returns. Researches since made show this assumption to be quite erroneous, and so far from property being almost exclusively confined to men, women have estates amounting in the aggregate to no inconsiderable value. From the available returns it appears that out of every hundred estates paying stamp duty, twenty-one are left by women, or, in other words, the number of women's estates paying duty is nearly 27 per cent. of the number of estates belonging to men—a proportion altogether too large to be neglected.

In the chapter of this volume dealing with employment, it is pointed out that at the time of the census there was an unemployed population of adult breadwinners equal to about 4·8 per cent. of their whole number. It is obvious that an increasing ratio of wealth accumulation and an increasing distribution are consistent with a dearth of employment amongst a certain class of the community. It is a sound sentiment that a condition of regular employment of the whole population willing to work is more conducive to real prosperity than a condition which, while affording increased opportunities of saving to a large proportion of the community, leaves a not inconsiderable section uncertain as to their means of support during a large part of the year. The condition of affairs to which allusion has been made is one of the inconsistencies of modern progress by no means peculiar to Australia, and to remedy it is perhaps the chief aim of modern social legislation.

In the absence of the exact figures which it may be possible in the future to obtain under the present system of direct taxation, the actual distribution of wealth in New South Wales is a matter on which opinions may differ; but the collections under the Stamp Duties Act afford data which indicate the distribution with more or less accuracy. The following are the returns for ten years and a half:—

| Year. | Under the value of £5,000. | | £5,000 and under the value of £12,500. | | £12,500 and under the value of £25,000. | | £25,000 and under the value of £50,000. | | £50,000 and over. | | Total. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | Value. | No. | Value. | No. | Value. | No. | Value. | No. | Value. | No. | Value. |
| | | £ | | £ | | £ | | £ | | £ | | £ |
| 1890 | 1,644 | 1,281,596 | 61 | 472,820 | 35 | 654,055 | 11 | 412,350 | 17 | 3,669,605 | 1,768 | 6,490,426 |
| 1891 | 1,836 | 1,254,339 | 74 | 604,390 | 28 | 512,425 | 16 | 506,580 | 6 | 717,770 | 1,960 | 3,595,504 |
| 1892 | 1,990 | 1,390,502 | 76 | 596,480 | 20 | 381,860 | 19 | 720,320 | 14 | 1,488,145 | 2,119 | 4,577,307 |
| 1893 | 1,795 | 1,235,445 | 68 | 533,455 | 24 | 381,960 | 11 | 394,145 | 8 | 1,284,735 | 1,906 | 3,829,740 |
| 1894 | 1,912 | 1,361,750 | 68 | 540,490 | 29 | 494,815 | 15 | 563,890 | 7 | 1,171,005 | 2,031 | 4,131,950 |
| *1895 | 903 | 556,375 | 31 | 235,075 | 13 | 246,855 | 8 | 277,875 | 6 | 564,955 | 961 | 1,881,135 |
| 1895–6 | 2,076 | 1,311,800 | 54 | 434,090 | 22 | 376,065 | 12 | 429,175 | 16 | 1,726,939 | 2,180 | 4,278,069 |
| 1896–7 | 1,959 | 1,180,785 | 57 | 463,028 | 24 | 439,245 | 17 | 588,925 | 15 | 1,724,425 | 2,072 | 4,396,408 |
| 1897–8 | 2,143 | 1,304,780 | 72 | 618,310 | 22 | 344,635 | 6 | 217,260 | 10 | 2,338,475 | 2,253 | 4,823,460 |
| 1898–9 | 2,196 | 1,350,145 | 73 | 564,895 | 30 | 544,930 | 19 | 635,720 | 14 | 2,016,675 | 2,332 | 5,112,365 |
| 1899–1900 | 2,433 | 1,456,701 | 67 | 501,405 | 34 | 582,806 | 7 | 253,460 | 8 | 899,690 | 2,549 | 3,694,122 |
| Total.. | 20,887 | 13,684,278 | 701 | 5,564,438 | 281 | 4,959,051 | 141 | 4,999,700 | 121 | 17,602,419 | 22,131 | 46,810,486 |

* Half-year ended 30th June.

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The adult population at the Census of 1901 numbered 700,480, and assuming that 26·8 per cent.—that is to say, about 187,740 persons—were the possessors of property, and further that the sum of £370,000,000, which is the present valuation of the wealth of the state, was distributed amongst the 187,740 persons in the same proportions as the £46,810,486 ascertained in the table just given was distributed amongst the 22,131 persons in whose estates stamp duties were paid, then the following would be the present distribution of property in New South Wales :—

| Class of Estates. | Persons with estates. | Total value of estates of each class. | Proportion of total property in each class. |
|---|---|---|---|
| | No. | £ | per cent. |
| Under £200 | 75,547 | 6,609,000 | 1·79 |
| £200 and under £5,000 | 101,378 | 101,555,000 | 27·44 |
| £5,000 and under £12,500 | 6,079 | 43,982,000 | 11·89 |
| £12,500 and under £25,000 | 2,369 | 39,202,000 | 10·60 |
| £25,000 and under £50,000 | 1,284 | 39,519,000 | 10·68 |
| £50,000 and over | 1,083 | 139,133,000 | 37·60 |
| Total | 187,740 | 370,000,000 | 100·00 |

These figures show that nearly one half of the property of the state is in the hands of 2,367, nearly three-fifths in the hands of 4,736, and almost three-fourths in the hands of 10,815 persons.

According to the proportions already ascertained, the possessors of property would comprise 148,315 males and 39,425 females; and those who have no property, or so little as not to be worth while making it the subject of formal bequest, 512,740 adults, viz., 232,157 males and 280,583 females. These and certain other figures given on the previous pages of this chapter are advanced with no little diffidence, because all deductions based on the probate returns, and not taking into consideration the ages of the persons leaving property, are open to error. Further researches now in progress may or may not support the figures, but it can be said that, so far as investigations have proceeded, nothing has been disclosed that would tend to discredit their substantial accuracy.

## Incomes.

The following estimates of the income derived from New South Wales, or enjoyed by persons residing in the state are based upon the statistics of incomes subject to taxation supplied by the taxation department, and upon the direct statements of pastoralists, manufacturers, and other employers of labour. On the completion of the Census during the course of the current year (1902), ample data will be available to permit of this estimate being revised, and until the Census results are known it is not considered necessary or desirable to alter the figures

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established for 1898, and the following particulars relate to that year. The total income amounted to £64,404,000, and of this sum £59,899,000 was drawn in the state, and £4,505,000 by absentees. Dividing the incomes into classes, the following were the sums received by residents:—

| | £ |
|---|---|
| Employers and property owners | 19,505,000 |
| Professional persons and persons working on own account | 8,176,000 |
| Wage-earners | 29,679,000 |
| Public servants, excluding railway employees and roads maintenance men, included with wage-earners | 2,539,000 |
| Total | £59,899,000 |
| Absentee incomes, £2,530,000, and payments to debenture holders, £1,975,000 | 4,505,000 |
| | £64,404,000 |

The earnings of employers and of capital employed in New South Wales are placed at £19,505,000. This sum, however, represents not merely the income of the employing class, but also of companies carrying on co-operative enterprises, depositors in financial institutions, and the income derived from invested capital, no matter how small may be the amount. It unfortunately happens that there are no data on which could be founded an estimate of the amount of income derived by persons superintending the employment of their own capital as distinguished from capital indirectly employed.

There are about 490 companies whose incomes exceed £200 a year, and their aggregate earnings amount to £2,250,000. Further details of the larger incomes are given below.

With wage-earners are included persons assisting relatives. Such persons are usually remunerated indirectly, with, in some instances, the addition of a small money wage. The total income of wage-earners is £29,679,000, distributed amongst 301,965 males, receiving £26,924,000, and 76,405 females with £2,755,000. These figures give an average of a little over £98 per male, and £36 per female, wage-earner during twelve months.

The earnings of females amounted to at least £4,338,000; but their income was probably considerably more, seeing that the income of female capitalists and land-owners could not be ascertained, and is in addition to the sum just set down. The wage-earning females had an income, as already stated, of £36, but to this sum should be added the approximate value of board which servants receive. Women working on their own account, who numbered 17,300, had an income of £1,178,000, while those who were employers of others, had incomes amounting to £403,000.

Dividing the incomes into two classes, those over and under £200 a year, it has been found that the amount falling into the first class is £17,595,000, and into the second £44,834,000; but these sums do not include £1,975,000 paid to debenture holders in England, particulars concerning which were not ascertained. The incomes over £200 were

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enjoyed by 30,732 persons and 490 companies, and their approximate distribution was as follows:—

| £ | £ | No. |
|---|---|---|
| 200 and under | 250 | 10,644 |
| 250 ,, | 300 | 5,961 |
| 300 ,, | 400 | 5,657 |
| 400 ,, | 500 | 2,571 |
| 500 ,, | 700 | 2,553 |
| 700 ,, | 1,000 | 1,574 |
| 1,000 ,, | 1,200 | 577 |
| 1,200 ,, | 2,000 | 813 |
| 2,000 ,, | 5,000 | 620 |
| 5,000 ,, | 10,000 | 169 |
| 10,000 ,, | 20,000 | 45 |
| 20,000 and upwards | | 38 |
| Total incomes over £200 | | 31,222 |

Excluding 25,645 unemployed, the number of persons following gainful pursuits, or enjoying income from property, is 542,615, and of these 441,350 are adults. It may, therefore, be concluded that 30,732 adults have incomes above £200 a year, and 410,618 below that sum.

A further subdivision may be made, according to the sources whence the incomes are derived; but this subdivision can be extended only to incomes in excess of £200 a year, and is as follows:—

| | No. | £ |
|---|---|---|
| Merchants, traders, &c. | 4,989 | 2,480,000 |
| Companies | 490 | 2,250,000 |
| Employees other than public servants | 4,166 | 1,444,000 |
| Public servants | 3,211 | 999,000 |
| Publicans | 1,042 | 357,000 |
| Professional persons | 1,750 | 873,000 |
| Agents, auctioneers, brokers, &c. | 1,232 | 740,000 |
| Manufacturers (part) | 289 | 193,000 |
| Miscellaneous, including some manufacturers | 355 | 847,000 |
| Land and investments | 13,698 | 7,412,000 |
| Total | 31,222 | £17,595,000 |

The income of £59,899,000 disclosed in the foregoing tables cannot be looked upon as entirely within the disposition of the persons to whom it accrues. The actual cost of living during the year 1898 was ascertained to be £52,563,000. In addition to this expenditure, £793,000 was paid away in local rates; payments to the state out of income by holders of land conditionally purchased amounted to £1,105,000; and life insurance premiums, £910,000. There were, of course, losses by fire, accident, and the like, which further reduced the spendable income. The income of absentees, £4,505,000, was expended abroad, but this amount has not been included in the £59,899,000 quoted on page 860. When every allowance has been made, it will be found that in spite of the serious checks to business experienced during the year, the savings of the community reached the very respectable sum of £4,000,000, in addition to the indirect accumulations represented by life assurance premiums and payments to the state for land conditionally purchased.

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## Importation of Capital.

Money has been freely poured into New South Wales, especially by British investors. During the thirty years from 1871 to 1900, the sum of £109,494,000 was invested in the state. Of this large sum, £50,665,000, or nearly one-half, represented the proceeds of loans obtained by the Government and local government bodies; £7,796,000, the amount of capital introduced by persons who came to the state and made it their home; and £51,033,000, the amount of other capital sent for investment. Under the third category are included investments of persons living abroad, the money introduced by banks and finance companies, and the lendings of private persons. The total sum mentioned, viz., £109,494,000, did not, it should be understood, actually reach the state, since there were large counter payments to be made on account of the earnings of capital already in the state, and the income drawn by absentees. Including capital withdrawn from investment, the total of the payments made during the thirty years referred to may be set down at £110,982,000; so that there was actually no transfer of capital to the state in spite of the large present indebtedness.

The importation of capital by the Government has already been dealt with at length in the portion of this volume dealing with loans, and detailed reference thereto is not needed here. The import of capital by persons who have taken up their residence in the state has averaged nearly £260,000 a year, and has been a material element in the progress of the state, as it has not entailed the export of interest or the repayment of the principal. The capital invested by persons not living in the state amounted to £51,033,000, including money by the English banks, and representing their capital, with the deposits received in Great Britain and employed in the state; capital employed by other investment companies; mining capital; and miscellaneous investments, including advances on mortgages and investments in real estate in the city of Sydney. Against this, there was, of course, a withdrawal of money from investment during the period.

The following are the particulars of the investments referred to above, grouped in periods of five years, except the last period, which embraces ten years :—

| Classification. | 1871-75. | 1876-80. | 1881-85. | 1886-90. | 1891-1900. | 1871-1900. |
|---|---|---|---|---|---|---|
| | £ | £ | £ | £ | £ | £ |
| Capital imported by the Government and local bodies..... | 2,861,000 | 5,458,000 | 16,066,000 | 11,571,000 | 14,709,000 | 50,665,000 |
| Capital introduced by persons taking up their residence in the state | 751,000 | 1,983,000 | 2,719,000 | 1,387,000 | 956,000 | 7,796,000 |
| Capital invested in the state by persons living abroad ..... | 2,038,000 | 8,597,000 | 13,791,000 | 15,187,000 | 11,420,000 | 51,033,000 |
| Total capital introduced | 5,650,000 | 16,038,000 | 32,576,000 | 28,145,000 | 27,085,000 | 109,494,000 |

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The figures just given do not cover the entire case. British money was employed in the state prior to 1871, but not to any large extent, although no inconsiderable sum was invested in pastoral properties, especially in the Riverina district, by persons residing in other states, chiefly in Victoria. Taking all circumstances into consideration, the capital introduced for private investment prior to 1871 may be set down at £16,000,000. The import of money due to the increase in the public debt from 1871 to the end of 1900, has been estimated at £50,665,000; but the actual state and municipal debt owed outside the state was £58,091,000, the excess representing the import of money on public account up to 1870. The debt of New South Wales to persons outside its boundaries in excess of the value of property outside the state owned by New South Wales residents is as set down below. It will be noticed that private indebtedness is stated at £53,941,000; this is the net sum remaining after making allowance for the capital withdrawn from the state by investors during the period from 1871 to 1900:—

| | Amount. | Income. |
|---|---|---|
| To public creditors | £56,715,000 | £2,015,000 |
| ,, municipal creditors | 1,376,000 | 59,000 |
| ,, private creditors and absentees | 53,941,000 | 2,545,000 |
| Total | £112,032,000 | £4,619,000 |

The sum required to meet the interest on investments in New South Wales, viz., £4,619,000, is undoubtedly very large, representing as it does £3 8s. 3d. per head of population. A considerable portion of this is really not a burthen on the community, being the result of antecedent production. Thus the mining industry alone pays £900,000 as profits and expenses on New South Wales mines owned out of the state; but as the income would cease if the mines failed to be productive, this payment stands in a different category to the interest on the public debt, for example. Other payments, standing on much the same footing as the earnings of mines, amount to about £1,150,000, leaving the payments to be made to the creditors of the state, irrespective of production, approximately £2,569,000.

It will be seen on reference to page 857 that the total value of private property in the state is £375,600,000, while the foregoing total shows that the sum of £53,941,000 is owing or has been invested in the state by persons residing outside its limits. This represents about 14 per cent. of the total value of private property, and whatever point of view be taken is a very heavy burden on the state. As further illustrating the position of New South Wales as a debtor state the probate returns are extremely interesting. Taking the five years closing with the 31st December, 1900, it has been found that the total number of estates was 11,100, valued at £22,137,893, and of these estates 676 valued at £4,687,975 were of persons residing at the time of their

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death outside New South Wales. The following details throw further light on this important matter :—

| Place of Residence at Date of Decease. | Number of Estates. | Value. |
|---|---|---|
| | | £ |
| New South Wales | 10,424 | 17,449,918 |
| Victoria | 175 | 1,429,860 |
| Other Australian States and New Zealand | 207 | 844,310 |
| Great Britain and Ireland | 238 | 2,286,395 |
| Other Countries | 56 | 127,410 |
| Total | 11,100 | £22,137,893 |

If the experience of the last five years be accepted then it might be claimed that 6 per cent. of the property holders of New South Wales resided elsewhere than in the state, and that over 21 per cent. of the property in private hands belonged to absentees. The last five years, however, were in some respects exceptional. It chanced that in 1899 the holder of one very large estate valued at £631,500 died in Queensland, while during 1897 and 1898 the deaths occurred of several persons resident in England whose estates in New South Wales were extremely valuable. The occurrence of these exceptional instances makes the value of estates held out of New South Wales appear proportionately larger than is in reality the case, and the probabilities point to about 14 to 17 per cent. of property in the state being owned by absentees.

## Currency.

The coins circulating in Australasia are those of the United Kingdom. Gold is the standard; the silver and copper current are more properly tokens than coins. Gold coins are legal tender to any amount; silver for an amount not exceeding forty shillings; and bronze for one shilling. The standard weight and fineness of each coin are given below. The least current weight of a sovereign is 122·5 Imperial grains, and of a half-sovereign 61·125 grains :—

| Denomination of Coin. | | Standard Weight. | Standard Fineness. |
|---|---|---|---|
| | | Imperial grains. | |
| Gold | Sovereign | 123·27447 | Eleven-twelfths fine gold, or decimal fineness 0·91666, one-twelfth copper alloy. |
| | Half-sovereign | 61·63723 | |
| Silver | Crown | 436·36363 | Thirty-seven-fortieths fine silver, or decimal fineness 0·925, and three-fortieths copper alloy. |
| | Double Florin | 349·09090 | |
| | Half-crown | 218·18181 | |
| | Florin | 174·54545 | |
| | Shilling | 87·27272 | |
| | Sixpence | 43·63636 | |
| | Threepence | 21·81818 | |
| Bronze | Penny | 145·83333 | Mixed metal, 95 parts copper, 4 parts tin, and 1 part zinc. (The Coinage Act does not prescribe these proportions for bronze coins, but the alloy used is as stated.) |
| | Halfpenny | 87·50000 | |
| | Farthing | 43·75000 | |

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Gold coins only are struck at the Sydney Mint, though silver and bronze of English coinage are issued. Towards the close of 1898, however, the Governments of New South Wales and Victoria succeeded in inducing the Imperial authorities to grant them permission to coin silver and bronze for circulation in the Australian colonies, and to retain the profits of the coinage, but up to the present no advantage has been taken of the privilege.

Standard or sovereign gold has a fineness of 22 carat, and is worth £3 17s. 10½d. per oz.; pure gold, or 24 carat, is worth £4 4s. 11$\frac{5}{11}$d. per oz. The whole of the gold contained in deposits sent to the Sydney Branch of the Royal Mint for melting, assaying, and coining is accounted for at the rate of £3 17s. 10½d. per oz. standard or sovereign gold, while the average price by the Melbourne Mint in 1898, the latest year for which information is available, was only £3 17s. 8$\frac{5}{8}$d. per oz.

Standard silver is 0·925 fine. Owing partly to its greatly increased production, and still more to its demonetisation in a large part of Europe, and the restrictions placed upon its free coinage in countries which still have a double standard of coinage, its value has decreased by over 50 per cent. during the last twenty-five years. The average price of standard silver in the London market for each year since 1873 is given in the annual reports of the Deputy Master of the Royal Mint as follows:—

| Year. | Price per standard oz. | Year. | Price per standard oz. | Year. | Price per standard oz. |
|---|---|---|---|---|---|
| | d. | | d. | | d. |
| 1873 | 59$\frac{1}{2}$ | 1883 | 50$\frac{9}{16}$ | 1892 | 39$\frac{13}{16}$ |
| 1874 | 58$\frac{8}{16}$ | 1884 | 50$\frac{11}{16}$ | 1893 | 35$\frac{5}{8}$ |
| 1875 | 56$\frac{13}{16}$ | 1885 | 48$\frac{3}{8}$ | 1894 | 29 |
| 1876 | 53 | 1886 | 45$\frac{3}{8}$ | 1895 | 29$\frac{7}{8}$ |
| 1877 | 54$\frac{3}{8}$ | 1887 | 44$\frac{5}{8}$ | 1896 | 30$\frac{3}{4}$ |
| 1878 | 52$\frac{9}{16}$ | 1888 | 42$\frac{7}{8}$ | 1897 | 27$\frac{9}{16}$ |
| 1879 | 51$\frac{9}{16}$ | 1889 | 42$\frac{11}{16}$ | 1898 | 26$\frac{15}{16}$ |
| 1880 | 52$\frac{1}{4}$ | 1890 | 47$\frac{3}{4}$ | 1899 | 27$\frac{1}{2}$ |
| 1881 | 51$\frac{3}{4}$ | 1891 | 45$\frac{1}{16}$ | 1900 | 28$\frac{5}{16}$ |
| 1882 | 51$\frac{13}{16}$ | | | | |

The fluctuations in its value during 1900 are shown in the following table of average monthly prices:—

| Month. | Price per standard oz. | Month. | Price per standard oz. | Month. | Price per standard oz. |
|---|---|---|---|---|---|
| | d. | | d. | | d. |
| January..... | 27$\frac{11}{32}$ | May ..... | 27$\frac{9}{16}$ | September ... | 28$\frac{27}{32}$ |
| February ... .. | 27$\frac{17}{32}$ | June ..... ..... | 28$\frac{1}{16}$ | October..... | 29$\frac{3}{32}$ |
| March ..... | 27$\frac{9}{16}$ | July ..... | 28$\frac{5}{32}$ | November..... | 29$\frac{1}{16}$ |
| April ..... ..... | 27$\frac{13}{32}$ | August ..... | 28$\frac{3}{16}$ | December..... | 29$\frac{1}{16}$ |



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The nominal value of one pound (avoirdupois) of bronze coined into pence is 4s., and into halfpence or farthings, 3s. 4d.

The weight of gold sent for coinage from the first opening of the Mint on the 14th May, 1855, to the end of 1900, was 26,146,950 oz., valued at £96,994,652. Of this quantity New South Wales produced only 9,397,947 oz., of the value of £35,363,126, the amount from each source being :—

| Country where gold was produced. | Weight. | Value. |
|---|---|---|
| | oz. | £ |
| Queensland | 11,887,690 | 42,276,109 |
| New South Wales | 9,397,947 | 35,363,126 |
| New Zealand | 2,955,263 | 11,706,417 |
| Victoria | 1,442,958 | 5,924,364 |
| South Australia | 81,931 | 288,098 |
| Tasmania | 67,457 | 239,128 |
| Other countries | 52,776 | 185,358 |
| Old coin | 260,928 | 1,012,052 |
| Total | 26,146,950 | 96,994,652 |

The greater part of the gold won in New South Wales and Queensland, and also part of the produce of New Zealand and South Australia, comes to Sydney for coinage ; but by far the larger portion of the gold of the countries last mentioned, as well as of the other provinces of the group, goes to Melbourne, although for the years 1895 to 1900, a small proportion of the Western Australian gold was sent to the Sydney Mint. The total value of gold raised in Australasia to the end of 1900 amounted to £443,550,310, of which £96,994,652, equivalent to 21·9 per cent., passed through the Mint of this state. The value of gold coin and bullion issued up to the end of 1900 was £96,808,633, of which £93,544,000 worth of gold was converted into coin, the value of sovereigns and half-sovereigns being :—

| Year. | Sovereigns. | Half-sovereigns. | Total. |
|---|---|---|---|
| | £ | £ | £ |
| 1855 to 1890 | 62,105,500 | 2,420,500 | 64,526,000 |
| 1891 | 2,596,000 | 77,000 | 2,673,000 |
| 1892 | 2,837,000 | ..... | 2,837,000 |
| 1893 | 2,844,000 | 125,000 | 2,969,000 |
| 1894 | 3,067,000 | ..... | 3,067,000 |
| 1895 | 2,758,000 | ..... | 2,758,000 |
| 1896 | 2,544,000 | ..... | 2,544,000 |
| 1897 | 2,532,000 | ..... | 2,532,000 |
| 1898 | 2,548,000 | 50,000 | 2,598,000 |
| 1899 | 3,259,000 | 65,000 | 3,324,000 |
| 1900 | 3,586,000 | 130,000 | 3,716,000 |
| Total | 90,676,500 | 2,867,500 | 93,544,000 |

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Bronze coin was first issued from the Mint in 1868, and silver coin in 1879, the respective value of each to the close of the year 1900 being:—Bronze, £56,310; and silver, £717,600. The amount of each particular currency issued to the end of 1900 is shown in the following table:—

| Year. | Silver Coin. | | | | | | | Bronze Coin. |
|---|---|---|---|---|---|---|---|---|
| | Crowns and Double Florins. | Half-crowns. | Florins. | Shillings. | Six-pences. | Three-pences. | Total. | |
| | £ | £ | £ | £ | £ | £ | £ | £ |
| 1868 to 1890 | 1,200 | 113,400 | 86,400 | 110,150 | 35,300 | 49,900 | 396,350 | 34,020 |
| 1891 | ..... | 2,000 | 1,800 | 4,100 | 5,100 | 4,200 | 17,200 | 1,980 |
| 1892 | ..... | 1,500 | 4,000 | 4,300 | 2,500 | 1,625 | 13,925 | 2,065 |
| 1893 | ..... | 2,800 | 2,300 | 3,500 | 1,000 | 425 | 10,025 | 840 |
| 1894 | ..... | 1,900 | 1,100 | 900 | 1,500 | 900 | 6,300 | 505 |
| 1895 | 100 | 900 | 700 | 250 | 300 | 2,500 | 4,750 | 1,260 |
| 1896 | ..... | 2,100 | 2,300 | 4,200 | 1,300 | 900 | 10,800 | 2,880 |
| 1897 | ..... | 2,000 | 2,000 | 4,600 | 800 | 7,850 | 17,250 | 1,890 |
| 1898 | ..... | 21,800 | 7,000 | 5,000 | 1,000 | 5,000 | 39,800 | 3,940 |
| 1899 | ..... | 19,200 | 17,000 | 10,000 | 8,000 | 7,600 | 61,800 | 2,830 |
| 1900 | ..... | 50,000 | 40,000 | 25,000 | 13,000 | 11,400 | 139,400 | 4,100 |
| Total... £ | 1,300 | 217,600 | 164,600 | 172,000 | 69,800 | 92,300 | 717,600 | 56,310 |

The difference between the nominal value of silver and the average price per standard oz. paid by the London Mint represents the seignorage or gross profit. The coinage or nominal value of silver per standard oz. is 5s. 6d., and the price per oz. paid by the London Mint during 1900 averaged 2s. $4\frac{5}{16}$d., the difference—3s. $1\frac{1}{16}$d.—representing the seignorage accrued. Against this must be placed the loss to the Imperial Government by purchase of worn silver at its nominal value; but after making all necessary allowances for loss by abrasion, minting, etc., a considerable margin of profit remains. As, however, silver coins are merely tokens, the demand for them is necessarily limited, the average annual issue of silver coin by the Sydney Mint for the twenty years ended 31st December, 1900, being about £31,465. The average price of standard silver from 1881 to 1900 was about $40\frac{1}{20}$d. per oz. If all the silver issued by the Sydney Mint since 1880 had been coined there, the gross profits for the whole period would have amounted to about £247,000, but from this would have had to be deducted the loss on old coin withdrawn and the cost of minting.

The gold bullion issued by the Mint is partly pure gold in small quantities for the use of jewellers, chemists, and others; but the bulk consists of 10-oz. ingots of sovereign gold, which has, of late years, been principally exported to India by the Sydney branch of the "Comptoir National d'Escompte de Paris." The total amount of gold bullion issued during 1900 was valued at £15,738, and to the end of 1900 at £3,264,633.

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Worn gold coins have been received at the Mint for recoinage since 1876, and silver coins since 1873. Light gold coins are received in parcels of not less than £50 nominal value, and recoined free of charge, but depositors must bear the loss by abrasion. The nominal value of gold coin withdrawn from circulation during 1900 was only £525, the net loss by recoinage being £18, or 3·429 per cent. For the whole period from 1876 to 1900 the corresponding figures were £826,282, £2,755, and 0·333 per cent.

Silver coin of the value of £11,201, and weighing 40,729·32 oz., was withdrawn during 1900. On this the net loss, after melting, was found to be 4,201·92 oz., or 10·32 per cent. The value of silver coin withdrawn from 1876 to 1900 was £194,118; its weight, 705,880·39 oz.; and the net loss, 84,657·06 oz., or 11·99 per cent. All silver coin withdrawn is forwarded to London for recoinage.

The expense of the Sydney branch of the Royal Mint is borne by the local Government, £15,000 being set apart annually for that purpose. Special votes for construction, repairs, and furniture have, however, been passed occasionally, as will be seen from the subjoined table, which shows the total cost of administration, as well as the net cost to the state for the last ten years. The falling off in 1897 was chiefly caused by the diminished profits on the silver account:—

| Year ended 31st December. | Actual Expenditure from Consolidated Revenue. | | | Mint Receipts (paid into Consolidated Revenue). | Net Annual Charge to State for working of Mint. |
|---|---|---|---|---|---|
| | On Ordinary Administration (including Pensions, Stores, and Stationery). | On Construction, Repairs, and Furniture. | Total. | | |
| | £ | £ | £ | £ | £ |
| 1891 | 14,357 | 417 | 14,774 | 13,929 | 845 |
| 1892 | 13,344 | 283 | 13,627 | 11,652 | 1,975 |
| 1893 | 14,293 | 555 | 14,848 | 13,198 | 1,650 |
| 1894 | 14,028 | 5,823 | 19,851 | 16,705 | 3,146 |
| 1895 | 13,937 | 348 | 14,285 | 14,510 | *225 |
| 1896 | 14,277 | 493 | 14,770 | 14,847 | *77 |
| 1897 | 13,866 | 7,668 | 21,534 | 11,702 | 9,832 |
| 1898 | 14,185 | 3,771 | 17,956 | 13,433 | 4,523 |
| 1899 | 14,488 | 467 | 14,955 | 15,610 | *655 |
| 1900 | 14,823 | 669 | 15,492 | 18,857 | *3,365 |

* Excess receipts.

The receipts of the Mint, which are paid into the Consolidated Revenue, are made up of charges for coining gold, fees for assays, etc.

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and profits on sale of silver. The Mint retains all silver contained in deposits, and makes payment for the amount in excess of 2 per cent. at a rate which is from time to time notified in the *Gazette*, and which, from 1st January to 30th September, 1896, was 1s. 9d., from 1st October, 1896, to 23rd August, 1897, 2s. per oz. fine, and from the last-mentioned date, 1s. 6d. per oz. fine. From the 1st January, 1901, the rate has been fixed at 2s. 3d. per oz. fine, to be paid on any silver in a deposit in excess of 8 per cent. of the gross weight of the deposit. The Melbourne Mint pays only for silver in excess of 8 per cent., the average price in 1898, the latest year for which information is available, being 1s. 5·4d. The following table shows the scale of charges of the Sydney Mint in force at the end of 1900 :—

| Quantity. | Gold raised in New South Wales. | Gold certified to be the produce of any colony or country other than N. S. Wales. |
|---|---|---|
| In deposits of less than 500 oz., standard. | 6d. per oz., six shillings being charged for a deposit under 12 oz. | 5d. per oz., five shillings being charged for a deposit under 12 oz. |
| In deposits of 500 oz. and over, but less than 5,000 oz. standard. | 4d. per oz. ..... ..... | 3d. per oz. |
| In deposits of 5,000 oz., standard, and over. | 2d. per oz. ..... | 1d. per oz. |

From the 1st January, 1901, however, amended regulations were adopted and the charges were considerably reduced, and no distinction is made between gold raised in New South Wales and that raised in any of the other States.

The new regulations are as follow :—

For assaying and coining—1d. per oz. standard.

For melting and refining—

Deposits of 500 oz. and under—3d. per oz. gross ; deposits of over 500 oz. and under 1,000 oz.—2d. per oz. gross ; deposits of more than 1,000 oz.—1d. per oz. gross ; deposits containing more than 5 per cent. of base metal—1s. per oz. of base metal, in addition to the above charges for melting, &c. The minimum charge on any one deposit is 6s., except in the case of deposits containing more than 5 per cent. of base metal, when the minimum charge is 10s. 6d.

The Melbourne Mint charges on all gold are 1½d. per oz. for parcels of 1,000 oz. and upwards, and 2d. per oz. for parcels of less than 1,000 oz., with a minimum charge of 4s. A comparison of the Melbourne charges with the Sydney charges up to 31st December, 1900, on gold produced elsewhere than in New South Wales shows that for parcels

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up to 500 oz. the Melbourne charges were 2d., against 5d. in Sydney; for parcels from 500 oz. to 1000 oz. they were 2d. in Melbourne against 3d. in Sydney; from 1,000 oz. to 5,000 oz., 1½d. in Melbourne against 3d. in Sydney; and for over 5,000 oz., 1½d. in Melbourne against 1d. in Sydney. While, therefore, the Melbourne charges on large parcels were 50 per cent. in excess of the Sydney charges, they were very much lower in the case of small parcels, and amount to only 40 per cent. of the Sydney charges for parcels under 500 oz. Under the new regulations, however, the Sydney rates are 50 per cent. lower for parcels of 1,000 oz. and over, while for deposits up to 500 oz. the Melbourne rates are 50 per cent. lower, and from 500 oz. to 1,000 oz. the rates are equal.

The total receipts of the Mint since its establishment in 1855 are shown below:—

| Year. | Mint Charges. | | Profit on Sale of Silver. | Fees for Assays and Crushings, and Proceeds of Sweep. | Total Mint Receipts (paid into Consolidated Revenue). |
|---|---|---|---|---|---|
| | On New South Wales Gold. | On Gold of other States or Countries. | | | |
| | £ | £ | £ | £ | £ |
| 1855 to 1890 | 269,532 | 143,574 | 59,282 | 60,993 | 533,381 |
| 1891 | 2,881 | 3,854 | 5,319 | 1,875 | 13,929 |
| 1892 | 2,938 | 3,893 | 3,164 | 1,657 | 11,652 |
| 1893 | 3,624 | 3,713 | 4,290 | 1,571 | 13,198 |
| 1894 | 4,439 | 3,759 | 5,402 | 3,105 | 16,705 |
| 1895 | 3,832 | 3,125 | 5,058 | 2,495 | 14,510 |
| 1896 | 3,487 | 2,956 | 5,058 | 3,346 | 14,847 |
| 1897 | 3,317 | 3,259 | 2,962 | 2,164 | 11,702 |
| 1898 | 3,627 | 3,184 | 3,896 | 2,726 | 13,433 |
| 1899 | 3,630 | 3,659 | 5,391 | 2,930 | 15,610 |
| 1900 | 3,321 | 4,217 | 7,855 | 3,464 | 18,857 |
| Total | 304,628 | 179,193 | 107,677 | 86,326 | 677,824 |

In former issues of this work tables were given purporting to show the amount of coin in private hands. These tables were given on the authority of the Mint, and were deduced from the statistics of gold and silver imported and exported. For 1896 the amounts were:—

| Coinage. | Total. | Per Inhabitant. |
|---|---|---|
| | £ | £ s. d. |
| Gold | 4,536,882 | 3 10 4 |
| Silver | 398,205 | 0 6 2 |
| Bronze | 34,633 | 0 0 6 |
| Total | 4,969,720 | 3 17 0 |

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In the report of the Sydney Branch of the Royal Mint for 1896, however, the then Deputy-Master drew attention to the fact that it was desirable to devise a more accurate method of ascertaining the coin in private hands, as the previous estimates were not reliable.

As showing how gold leaves the state without count of it being taken it has been contended that passengers by outward steamers usually take with them a supply of gold which greatly exceeds the amount brought to the state by passengers inward. This may be conceded, inasmuch as passengers commencing the voyage would naturally be possessed of a larger stock of money than those whose voyage is practically over. Early in 1892 the general manager of one of the principal banks in Sydney obtained returns from the three banking institutions with the largest receiving business, and it was found that the coin paid in was equal to precisely half the value of the notes deposited at the same time. From this it has been claimed that the coin in private hands is not more than half the note issue outstanding, which at the time the estimate was made was not more than £1,450,000. On this assumption the coin in private hands would have been £725,000, as compared with £4,416,000 estimated by the Mint as being the probable quantity at the same period. While not maintaining the absolute accuracy of the latter estimate, it may be pointed out that there are many sound reasons why the estimate of £725,000 should not be entertained. Bank notes are continued in circulation by several of the banks until they are practically worn out, and a large number of persons not over fastidious have strong objections to carrying notes about their persons when gold can be procured. The assumption that coin is withdrawn in large quantities by outward-bound passengers may be correct so far as gold is concerned, but not so as regards silver. It is, therefore, probable that the silver remains in the country, and the estimate of the Mint in regard to that metal may be accepted with some deduction for coin lost or destroyed. Another source of the accumulation of coin in private hands is hoarding, which recent events prove to be quite a common practice in the state, and the indestructible and unimpeachable sovereign is naturally preferred to the perishable bank note. Lastly, a large proportion of the half-sovereigns issued remains in circulation with silver as till-money, and not being paid into the banks would not be subject to the conditions of the estimate of the banking authority already alluded to.

An estimate, founded partly on the records and partly on observation, has been made by the author, and shows that the estimate of the Mint must be abandoned as being too high, and the amount of coin in private hands may be approximately stated as follows :—

| | £ |
|---|---|
| Gold | 1,950,000 |
| Silver | 381,000 |
| Bronze | 34,000 |
| Total | £2,365 000 |

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This is equal to £1 14s. 8d. per inhabitant at the close of 1900. To the sum shown must be added £1,447,641 note circulation; so that the total active currency would appear to be about £3,812,641, or £2 15s. 10d. per inhabitant. As, however, the note issue is fully covered by gold in Australasia, it is omitted from the following tables, in which, on the other hand, the coin held by banks is included for the sake of comparison. Including bank reserves, the gold and silver held in Australasia at the end of 1900 amounted to no less than £6 10s. 4d. per inhabitant—a sum only 6s. 1d. below that shown for France, and considerably in excess of that shown for any other European country. The figures given in the tables are published on the authority of the Director of the United States Mint, Washington, with the exception of those for Australasia, which are based on a special estimate. The total stocks of money held in various countries in 1900 were as follow:—

| Country. | Gold. | Silver. | | | Uncovered Paper. |
|---|---|---|---|---|---|
| | | Full Tender. | Limited Tender. | Total. | |
| | £ | £ | £ | £ | £ |
| United Kingdom | 100,010,000 | ..... | 22,994,000 | 22,994,000 | 23,076,000 |
| Austria-Hungary | 50,200,000 | 10,274,600 | 9,514,000 | 19,788,000 | 19,172,000 |
| Belgium | 4,336,000 | 7,102,000 | 1,027,000 | 8,219,000 | 19,090,000 |
| Bulgaria | 205,000 | 699,000 | 699,000 | 1,398,000 | ..... |
| Denmark | 3,247,000 | ..... | 1,151,000 | 1,151,000 | 1,274,000 |
| Finland | 904,000 | ..... | 82,000 | 82,000 | 1,911,000 |
| France | 166,567,000 | 74,366,000 | 12,185,000 | 86,551,000 | 39,895,000 |
| Germany | 143,409,000 | 17,590,000 | 25,234,000 | 42,824,000 | 35,714,000 |
| Greece | 82,000 | 103,000 | 205,000 | 308,000 | 5,918,000 |
| Italy | 20,138,000 | 3,288,000 | 5,733,000 | 9,021,000 | 35,940,000 |
| Netherlands | 5,651,000 | 10,254,000 | 719,000 | 10,973,000 | 8,528,000 |
| Norway | 1,767,000 | ..... | 493,000 | 493,000 | 1,110,000 |
| Portugal | 1,069,000 | ..... | 2,014,000 | 2,014,000 | 15,227,000 |
| Roumania | 1,459,000 | ..... | 123,000 | 123,000 | 2,897,000 |
| Russia | 162,684,000 | ..... | 21,473,000 | 21,473,000 | ..... |
| Servia | 308,000 | ..... | 349,000 | 349,000 | 678,000 |
| Spain | 15,864,000 | ..... | 50,077,000 | 50,077,000 | 32,344,000 |
| Sweden | 2,754,000 | ..... | 1,397,000 | 1,397,000 | 6,370,000 |
| Switzerland | 4,932,000 | ..... | 2,199,000 | 2,199,000 | 4,212,000 |
| Turkey | 10,274,000 | 6,165,000 | 2,055,000 | 8,220,000 | ..... |
| China | ..... | 154,115,000 | ..... | 154,115,000 | ..... |
| India | 4,562,000 | 79,996,000 | ..... | 79,996,000 | 6,658,000 |
| Japan | 12,585,000 | ..... | 5,363,000 | 5,363,000 | 14,384,000 |
| Siam | 4,110,000 | 39,659,000 | ..... | 39,659,000 | 432,000 |
| Straits Settlements* | ..... | 49,317,000 | 411,000 | 49,728,000 | ..... |
| Cape Colony | 7,706,000 | ..... | 205,000 | 205,000 | ..... |
| Egypt | 6,165,000 | ..... | 1,315,000 | 1,315,000 | ..... |
| South African Republic | 6,000,000 | ..... | 247,000 | 247,000 | ..... |
| Canada | 4,110,000 | ..... | 1,027,000 | 1,027,000 | 8,322,000 |
| Central American States | 288,000 | 1,911,000 | 493,000 | 2,404,000 | 1,562,000 |
| Cuba | 411,000 | ..... | 308,000 | 308,000 | ..... |
| Haiti | 205,000 | 205,000 | 308,000 | 514,000 | 719,000 |
| Mexico | 1,767,000 | 21,782,000 | ..... | 21,782,000 | 11,178,000 |
| South American States† | 14,980,000 | 1,726,000 | 3,247,000 | 4,973,000 | 242,515,000 |
| United States | 209,637,000 | 115,750,000 | 16,439,000 | 132,189,000 | 69,167,000 |
| Australasia | 28,351,000 | ..... | 1,268,000 | 1,268,000 | ..... |

* Inclusive of Aden, Perim, Ceylon, Hong Kong, Labuan, and Straits Settlements.
† Exclusive of Bolivia, Colombia, and Ecuador.

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The amounts per inhabitant for the same countries are shown below:—

| Country. | Gold. | Silver. | Uncovered Paper. | Total. |
|---|---|---|---|---|
| | £ s. d. | £ s. d. | £ s. d. | £ s. d. |
| United Kingdom | 2 9 2 | 0 11 4 | 0 11 4 | 3 11 10 |
| Austria-Hungary | 1 1 8 | 0 8 7 | 0 8 3 | 1 18 6 |
| Belgium | 0 12 11 | 1 4 7 | 2 16 11 | 4 14 5 |
| Bulgaria | 0 1 3 | 0 8 5 | ..... | 0 9 8 |
| Denmark | 1 8 3 | 0 10 0 | 0 11 1 | 2 9 4 |
| Finland | 0 6 11 | 0 0 7 | 0 14 9 | 1 2 3 |
| France | 4 6 6 | 2 9 11 | 1 0 9 | 7 17 2 |
| Germany | 2 14 10 | 0 16 5 | 0 13 8 | 4 4 11 |
| Greece | 0 0 8 | 0 2 7 | 2 9 4 | 2 12 7 |
| Italy | 0 12 8 | 0 5 8 | 1 2 6 | 2 0 10 |
| Netherlands | 1 2 2 | 2 3 0 | 1 13 6 | 4 18 8 |
| Norway | 0 16 10 | 0 4 8 | 0 10 7 | 1 12 1 |
| Portugal | 0 4 2 | 0 7 11 | 2 19 9 | 3 11 10 |
| Roumania | 0 5 2 | 0 0 6 | 0 10 4 | 0 16 0 |
| Russia | 1 4 10 | 0 3 3 | ..... | 1 8 1 |
| Servia | 0 2 7 | 0 2 10 | 0 5 8 | 0 11 1 |
| Spain | 0 17 11 | 2 16 7 | 1 16 7 | 5 11 1 |
| Sweden | 0 10 9 | 0 5 6 | 1 4 11 | 2 1 2 |
| Switzerland | 1 11 10 | 0 14 2 | 1 7 2 | 3 13 2 |
| Turkey | 0 8 5 | 0 6 8 | ..... | 0 15 1 |
| China | ..... | 0 8 1 | ..... | 0 8 1 |
| India | 0 0 4 | 0 5 5 | 0 0 5 | 0 6 2 |
| Japan | 0 5 9 | 0 2 5 | 0 6 7 | 0 14 9 |
| Siam | 0 16 5 | 7 18 8 | 0 1 8 | 8 16 9 |
| Straits Settlements | ..... | 11 1 0 | ..... | 11 1 0 |
| Cape Colony | 3 10 1 | 0 1 10 | ..... | 3 11 11 |
| Egypt | 0 12 7 | 0 2 8 | ..... | 0 15 3 |
| South African Republic | 5 9 1 | 0 4 6 | ..... | 5 13 7 |
| Canada | 0 14 11 | 0 3 8 | 1 10 4 | 2 8 11 |
| Central American States | 0 1 8 | 0 13 9 | 0 8 11 | 1 4 4 |
| Cuba | 0 5 2 | 0 3 10 | ..... | 0 9 0 |
| Haiti | 0 4 1 | 0 10 3 | 0 14 5 | 1 8 9 |
| Mexico | 0 2 10 | 1 14 7 | 0 17 9 | 2 15 2 |
| South American States | 0 7 9 | 0 2 7 | 6 5 4 | 6 15 8 |
| United States | 2 14 11 | 1 14 8 | 0 18 1 | 5 7 8 |
| Australasia | 6 4 9 | 0 5 7 | ..... | 6 10 4 |

## MOVEMENTS OF GOLD.

Since the discovery of gold in the year 1851 large quantities of that metal—in the form of coin as well as bullion—have been exported from Australasia every year. The returns of gold imported and exported from each of the states and New Zealand, calculated for ten-year periods from the year 1851 to the end of 1900, are given herewith. The tables also show the amount by which the exports have exceeded the imports in the various states, or *vice versa*, as the case may be. The largest exporters of gold, it will be found, are the largest producers, as Victoria, New Zealand, and Queensland. The other states now produce very little more than suffices to meet their local requirements. The returns of the gold imports and exports for New South Wales, it must be remembered,

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are swollen by large quantities of Queensland gold, which is simply sent to Sydney to be minted, and then exported in the shape of coin. A large proportion of the export of gold coin during the last few years has gone to the United States, the quantity shipped thereto in 1898 from Sydney alone being valued at £5,615,000, or 1899 at £1,982,000, and in 1900 at £3,701,156. The imports and exports for each state and New Zealand were as follow :—

| State. | Imports of Gold. | | | | | |
|---|---|---|---|---|---|---|
| | 1851-60. | 1861-70. | 1871-80. | 1881-90. | 1891-1900. | 1851-1900. |
| | £ | £ | £ | £ | £ | £ |
| New South Wales | 3,874,764 | 12,148,037 | 13,308,140 | 18,018,550 | 32,805,136 | 80,154,627 |
| Victoria | 4,349,457 | 11,821,815 | 10,868,837 | 7,486,861 | 17,003,654 | 51,530,624 |
| Queensland | ..... | 367,025 | 1,333,822 | 2,532,705 | 2,962,994 | 7,246,546 |
| South Australia | 1,091,012 | 882,149 | 1,622,202 | 1,919,341 | 2,169,239 | 7,683,943 |
| Western Australia | ..... | 19,310 | 39,710 | 223,654 | 2,529,373 | 2,812,047 |
| Tasmania | ..... | 59,500 | 402,446 | 569,958 | 414,550 | 1,446,453 |
| Commonwealth | 9,315,233 | 25,297,836 | 27,625,157 | 30,751,069 | 57,974,955 | 150,964,250 |
| New Zealand | 170,328 | 1,727,925 | 2,312,327 | 2,780,009 | 2,265,471 | 9,256,060 |
| Australasia | 9,485,561 | 27,025,761 | 29,937,484 | 33,531,078 | 60,240,426 | 160,220,310 |

| State. | Exports of Gold. | | | | | |
|---|---|---|---|---|---|---|
| | 1851-60. | 1861-70. | 1871-80. | 1881-90. | 1891-1900. | 1851-1900. |
| | £ | £ | £ | £ | £ | £ |
| New South Wales | 12,211,831 | 25,804,687 | 18,557,134 | 18,296,059 | 40,284,190 | 115,153,901 |
| Victoria | 90,691,591 | 74,430,857 | 48,091,460 | 30,593,232 | 38,996,916 | 282,804,055 |
| Queensland | ..... | 2,135,600 | 10,813,959 | 14,072,950 | 24,633,823 | 51,656,332 |
| South Australia | 2,991,067 | 486,516 | 521,893 | 1,245,793 | 3,377,261 | 8,623,430 |
| Western Australia | ..... | 38,896 | 1,710 | 179,334 | 21,796,360 | 22,016,300 |
| Tasmania | 843,029 | 25,245 | 567,486 | 1,442,712 | 2,013,817 | 4,892,289 |
| Commonwealth | 106,738,418 | 102,921,801 | 78,553,651 | 65,830,080 | 131,102,367 | 485,146,317 |
| New Zealand | 219,309 | 22,022,747 | 16,527,470 | 10,417,390 | 11,704,181 | 60,891,097 |
| Australasia | 106,957,727 | 124,944,548 | 95,081,121 | 76,247,470 | 142,806,548 | 546,037,414 |

The excess of exports of gold during each of the periods shown was as follows :—

| State. | 1851-60. | 1861-70. | 1871-80. | 1881-90. | 1891-1900. | 1851-1900. |
|---|---|---|---|---|---|---|
| | £ | £ | £ | £ | £ | £ |
| New South Wales | 8,337,067 | 13,656,650 | 5,248,994 | 277,509 | 7,479,054 | 34,999,274 |
| Victoria | 86,342,134 | 62,609,042 | 37,222,632 | 23,106,371 | 21,993,262 | 231,133,441 |
| Queensland | ..... | 1,768,575 | 9,430,137 | 11,540,245 | 21,670,829 | 44,409,786 |
| South Australia | 1,900,955 | *395,633 | *1,100,309 | *673,548 | 1,208,022 | 939,487 |
| Western Australia | ..... | 19,586 | *38,000 | *44,320 | 19,266,987 | 19,204,253 |
| Tasmania | 843,029 | *34,255 | 165,040 | 872,754 | 1,599,258 | 3,445,826 |
| Commonwealth | 97,423,185 | 77,623,965 | 50,928,494 | 35,079,011 | 73,127,412 | 334,182,067 |
| New Zealand | 48,981 | 20,294,822 | 14,215,143 | 7,637,381 | 9,438,710 | 51,635,037 |
| Total excess of exports | 97,472,166 | 97,918,787 | 65,143,637 | 42,716,392 | 82,566,122 | 385,817,104 |
| Average per annum | 9,747,217 | 9,791,879 | 6,514,364 | 4,271,639 | 8,256,612 | 7,716,342 |

* Excess of Imports.

## BANKING.

The laws relating to banks and banking at present in force are susceptible of great improvement, and the recent failure of many monetary institutions posing as banks has directed attention to the strong necessity for entirely revising the conditions under which deposits may be taken from the general public. All institutions transacting the business of

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banking are required by law to furnish quarterly statements of their assets and liabilities in a specified form, and from these statements and the periodic balance-sheets the tables in this chapter have been compiled. The returns furnished by the banks, though in compliance with the law of the state, are by no means satisfactory, being quite unsuited to the modern methods of transacting banking business; nor can they be taken without question as indicating the stability or otherwise of the banks. As a rule, nothing can be elicited beyond what is shown in the balance-sheets. These are published half-yearly, with the exception of those of three banks which are issued annually. No uniformity is observed as regards the dates of closing the balance-sheets, and the modes of presentation are equally diverse. Important items which ought to be specifically stated are included with accounts of minor import, and, as a rule, current accounts are blended with other accounts, instead of being separately shown. The value of the information vouchsafed to the public is illustrated by the fact that it was impossible to obtain, from the publications of several institutions suspending payment during 1893, the amount of their liabilities.

There are thirteen banks of issue operating in New South Wales, four of which have their head offices in Sydney, two in Melbourne, two in Queensland, one in New Zealand, and four in London. Of the four local banks, three have branches outside New South Wales, and the fourth confines its operations within the limits of the state. Two of the local banks—the Bank of New South Wales and the City Bank of Sydney—carry on their business under the provisions of special Acts of Incorporation, and the liability attached to the shareholder is limited by the Acts to the amount subscribed for and an additional amount equal thereto; the Commercial Banking Company of Sydney (Limited) and the Australian Joint Stock Bank (Limited) are registered as limited companies. The following appears to have been the extent of the liability of shareholders of banks trading in New South Wales at the middle of 1901:—

| Bank. | Reserve or Capital Liability on ordinary shares when calls have been met. |
|---|---|
| | £ |
| Bank of New South Wales | 2,000,000 |
| Commercial Banking Company of Sydney (Limited) | 1,000,000 |
| Australian Joint Stock Bank (Limited) | 391,505 |
| City Bank of Sydney | 540,000 |
| Commercial Bank of Australia (Limited) | Nil. |
| National Bank of Australasia (Limited) | 715,464 |
| Queensland National Bank (Limited) | 276,832 |
| Bank of North Queensland (Limited) | 250,000 |
| Bank of New Zealand | 500,000 |
| Bank of Australasia | 1,600,000 |
| Union Bank of Australia (Limited) | 3,000,000 |
| London Bank of Australia (Limited) | 736,545 |
| English, Scottish, and Australian Bank (Limited) | 539,437 |

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## Capital Resources of Banks.

The total capital and reserves (including balances of Profit and Loss Account) of banks trading in New South Wales about the middle of 1901 amounted to £21,742,851, but of this amount only £8,557,237 was employed in the state. The following is a statement of the capital paid up, distinguishing ordinary from preferential capital, and of the amount of reserves held by each bank at the date of balancing :—

| Bank. | Date of balance-sheet. | Capital paid up. | | | Reserve Fund. |
|---|---|---|---|---|---|
| | | Ordinary. | Preferential. | Total. | |
| | | £ | £ | £ | £ |
| Bank of New South Wales | Mar., 1901 .. | 2,000,000 | Nil | 2,000,000 | 1,250,000 |
| Commercial Banking Co. of Sydney (Ltd.) | June, 1901 .. | 1,000,000 | Nil | 1,000,000 | 1,010,000 |
| Australian Joint Stock Bank (Limited) .. | June, 1901 .. | 1,168,042 | Nil | 1,168,042 | ¶52,000 |
| City Bank of Sydney | June, 1901 .. | 400,000 | Nil | 400,000 | 100,244 |
| Commercial Bank of Australia (Limited).. | June, 1901 .. | 1,138,591 | 2,117,230 | 3,250,821 | *Nil |
| National Bank of Australasia (Limited) .. | Mar., 1901 .. | 1,192,440 | 305,780 | 1,498,220 | 55,000 |
| Queensland National Bank (Limited) .... | Dec., 1900 .. | 412,823 | Nil | 412,823 | 15,000 |
| Bank of North Queensland (Limited) .... | Dec., 1900 .. | 100,000 | Nil | 100,060 | 8,000 |
| Bank of New Zealand | Mar., 1901 .. | 421,860 | 2,000,000 | 2,421,860 | 23,474 |
| Bank of Australasia | Oct., 1900 .. | 1,600,000 | Nil | 1,600,000 | 925,000 |
| Union Bank of Australia (Limited) ..... | Aug., 1900 .. | 1,500,000 | Nil | 1,500,000 | †1,000,000 |
| London Bank of Australia (Limited) .... | Dec., 1900 .. | ‡743,936 | 171,930 | 915,865 | Nil |
| English, Scottish, and Australian Bank (Limited). | June, 1900 .. | 539,438 | Nil | §539,438 | ‖90,391 |

* The assets trust special reserve account amounts to £293,000. † Includes £200,000 at contingency account. ‡ Includes £8,190 prepaid in respect of reserve liability. § £431,550 written off in 1898. ‖ Inclusive of £43,487 at capital reserve account. ¶ Exclusive also of £151,384, profit and loss special account.

The preceding table shows the capital account at date of balancing, but some of the banks had made calls on their shareholders which will increase their paid-up capital. The amount of these calls and the total working capital that will be available when they are met are shown in the following table :—

| Bank. | Capital called and being called up. | | |
|---|---|---|---|
| | Capital paid up. | Amount of Calls to be paid on ordinary shares. | Total Working Capital. |
| | £ | £ | £ |
| Bank of New South Wales | 2,000,000 | Nil | 2,000,000 |
| Commercial Banking Co. of Sydney (Limited) | 1,000,000 | Nil | 1,000,000 |
| Australian Joint Stock Bank (Limited) | 1,168,042 | 6,473 | 1,174,515 |
| City Bank of Sydney | 400,000 | Nil | 400,000 |
| Commercial Bank of Australia (Limited) | 3,250,821 | 318,243 | 3,569,064 |
| National Bank of Australasia (Limited) | 1,498,220 | Nil | 1,498,220 |
| Queensland National Bank (Limited) | 412,823 | 2,425 | 415,248 |
| Bank of North Queensland (Limited) | 100,000 | Nil | 100,000 |
| Bank of New Zealand | 2,421,860 | 78,140 | 2,500,000 |
| Bank of Australasia | 1,600,000 | Nil | 1,600,000 |
| Union Bank of Australia (Limited) | 1,500,000 | Nil | 1,500,000 |
| London Bank of Australia (Limited) | 915,865 | 800 | 916,665 |
| English, Scottish, and Australian Bank (Limited) | 539,438 | Nil | 539,438 |

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The calls being made, as shown in the table just given, represent a total of £406,081, and of this amount £6,473 is payable in Sydney, £318,243 in Melbourne, £2,425 in Brisbane, £78,140 in New Zealand, and £800 in London. The paid-up capital of banks operating in New South Wales has very largely increased during the past twenty-three years, viz., from £7,930,000 in 1875 to £16,807,069 in 1901; but these figures have no reference to the capital actually employed in the business of the banks, as will be seen from a subsequent table showing the excess of assets over liabilities in New South Wales, and are here inserted only for the purpose of facilitating comparisons which will inevitably arise when the question of the liabilities of banks is being considered. The decrease since 1896 is accounted for by the writing off of portion of the capital of some of the banks:—

| Year. | Banks. | Paid-up Capital. | Year. | Banks. | Paid-up Capital. |
|---|---|---|---|---|---|
| | No. | £ | | No. | £ |
| 1875 | 10 | 7,930,000 | 1895 | 13 | 19,306,350 |
| 1880 | 11 | 9,531,212 | 1896 | 13 | 19,531,430 |
| 1885 | 14 | 10,512,300 | 1897 | 13 | 18,357,268 |
| 1889 | 17 | 13,929,326 | 1898 | 13 | 18,040,449 |
| 1891 | 16 | 13,526,136 | 1899 | 13 | 18,092,428 |
| 1892 | 14 | 12,384,637 | 1900 | 13 | 17,732,205 |
| 1893 | 13 | 15,129,749 | 1901 | 13 | 16,807,069 |
| 1894 | 13 | 16,743,737 | | | |

## Local Business of Banks.

The banks are required by Act No. 9 of 1898, which repealed the Act of Council 4 Victoria No. 13, passed in the year 1840, to make quarterly statements of their business in a prescribed form; but these statements are not all made on the same lines, and it is necessary, therefore, to make certain adjustments in order to put the figures on a comparative basis. The alterations consist in the exclusion from the assets of two of the banks of the balances due by branches and agencies outside New South Wales to the head office in Sydney. The following table shows the assets and liabilities, and the surplus assets of the banks, at intervals from 1860 onwards; the surplus assets may be taken as representing the amount provided by the banks from their own resources. The figures in this and subsequent tables refer to the quarter ended

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31st December, with the exception of those for 1901, which are for the quarter ended 30th June :—

| Year. | Assets within the State. | Liabilities within the State. | Surplus Assets (Capital and Reserves used in local business). |
|---|---|---|---|
| | £ | £ | £ |
| 1860 | 8,053,463 | 6,480,642 | 1,572,821 |
| 1865 | 9,193,540 | 6,962,315 | 2,231,225 |
| 1870 | 9,863,071 | 7,198,680 | 2,664,391 |
| 1875 | 15,545,507 | 15,056,485 | 489,022 |
| 1880 | 21,658,317 | 19,485,862 | 2,172,455 |
| 1885 | 37,737,869 | 29,687,296 | 8,050,573 |
| 1890 | 50,751,647 | 37,248,937 | 13,502,710 |
| 1891 | 51,934,372 | 37,589,764 | 14,344,608 |
| 1892 | 51,665,479 | 37,171,380 | 14,494,099 |
| 1893 | 48,794,036 | 34,102,172 | 14,691,864 |
| 1894 | 47,195,214 | 31,263,120 | 15,932,094 |
| 1895 | 45,622,329 | 32,037,052 | 13,585,277 |
| 1896 | 44,527,828 | 31,254,776 | 13,273,052 |
| 1897 | 43,980,722 | 31,026,523 | 12,954,199 |
| 1898 | 42,638,224 | 31,311,293 | 11,326,931 |
| 1899 | 42,194,661 | 33,055,059 | 9,139,602 |
| 1900 | 43,036,427 | 33,969,731 | 9,066,696 |
| 1901 | 43,478,486 | 34,921,249 | 8,557,237 |

If the table just given be compared with the previous one, showing the paid-up capital of the various banks doing business in the state, it will be seen that the general tendency has been for the banks to increase the proportion of their own capital employed in the state, although the last five years show a movement in the opposite direction. Thus in 1875 the paid-up capital of the banks was £7,930,000, and their reserves at the same date were £2,496,457, making a total of £10,426,457 available from their own resources, while their surplus assets amounted to only £489,022; ten years later, when the capital stood at £10,512,300, and the reserves at £5,421,998, or together £15,934,298, the surplus assets were returned at £8,050,573; and in 1890 the capital was £13,929,326, and the reserves £7,832,047, making a total of £21,761,373, while the surplus assets reached the very considerable proportion of £13,502,710. In June, 1901, however, the capital and reserves of the thirteen banks now open showed a total of £21,742,851, and the excess assets of the local business amounted to £8,557,237.

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The banking returns do not admit of any useful deductions being made from them, as the classification, both of assets and liabilities, required by the schedule to the Act is obsolete; thus, under the term deposits not bearing interest, most of the banks are accustomed to return interest accrued and all debts due by them other than deposits at interest, notes, and bills, the result being that in this respect the returns are misleading. It unfortunately happens, moreover, that there are no means of correcting the figures. That the over-statement is considerable will appear from the fact that the census returns of 1891 showed deposits not bearing interest as £7,828,906, as compared with a tota in the quarterly statements of £9,363,727.

The assets, which naturally form the most interesting feature of a bank's returns, show coin and bullion separately, but 93 per cent. of the other assets are marshalled together under the term "notes and bills discounted, and all other debts due to the bank," and the lines on which business is conducted are therefore entirely hidden from sight. The following statement of liabilities for the past ten and a half years refers to local business only :—

| Year. | Banks. | Notes in circulation. | Bills in circulation. | Deposits. | | | Balances due to other Banks. | Total Liabilities. |
|---|---|---|---|---|---|---|---|---|
| | | | | Not bearing Interest. | Bearing Interest. | Total. | | |
| | No. | £ | £ | £ | £ | £ | £ | £ |
| 1891 | 15 | 1,674,049 | 146,202 | 9,188,873 | 26,470,817 | 35,659,690 | 109,823 | 37,589,764 |
| 1892 | 14 | 1,439,872 | 104,223 | 9,207,109 | 26,357,083 | 35,564,192 | 63,093 | 37,171,380 |
| 1893 | 13 | 1,804,531 | 75,086 | 8,557,340 | 23,584,119 | 32,141,959 | 80,596 | 34,102,172 |
| 1894 | 13 | 1,235,989 | 146,911 | 9,412,761 | 20,380,032 | 29,792,793 | 87,427 | 31,263,120 |
| 1895 | 13 | 1,223,804 | 117,327 | 10,222,437 | 20,406,822 | 30,629,259 | 66,602 | 32,037,052 |
| 1896 | 13 | 1,237,971 | 111,889 | 10,707,611 | 19,128,305 | 29,835,916 | 69,000 | 31,254,776 |
| 1897 | 13 | 1,227,964 | 112,113 | 10,582,621 | 19,024,114 | 29,606,735 | 79,711 | 31,026,523 |
| 1898 | 13 | 1,278,940 | 125,414 | 10,812,215 | 19,040,496 | 29,852,711 | 54,228 | 31,311,293 |
| 1899 | 13 | 1,340,557 | 202,468 | 11,779,918 | 19,648,107 | 31,428,025 | 84,009 | 33,055,059 |
| 1900 | 13 | 1,447,641 | 200,905 | 12,224,510 | 20,009,081 | 32,233,591 | 78,594 | 33,960,731 |
| 1901 | 13 | 1,498,035 | 233,395 | 12,894,220 | 20,224,639 | 33,118,859 | 70,960 | 34,921,249 |

The assets for the same period were as given in the following table:—

| Year. | Banks. | Coin. | Bullion. | Legal Tender Notes. | Landed Property. | Notes and Bills discounted, and all other debts due to the Banks. | Notes and Bills of other Banks, and Queensland Treasury Notes. | Balances due from other Banks. | Total Assets. |
|---|---|---|---|---|---|---|---|---|---|
| | No. | £ | £ | £ | £ | £ | £ | £ | £ |
| 1891 | 15 | 4,717,659 | 79,768 | .... | 1,602,940 | 45,068,914 | 265,268 | 109,823 | 51,934,372 |
| 1892 | 14 | 5,217,371 | 95,894 | .... | 1,801,590 | 44,135,729 | 227,795 | 187,101 | 51,665,479 |
| 1893 | 13 | 5,877,891 | 95,396 | 148,467 | 1,918,196 | 40,024,354 | 429,620 | 300,122 | 48,794,036 |
| 1894 | 13 | 7,350,005 | 100,525 | .... | 1,938,321 | 37,378,947 | 214,503 | 232,913 | 47,195,214 |
| 1895 | 13 | 7,364,659 | 151,619 | .... | 1,919,017 | 35,707,153 | 222,731 | 257,150 | 45,622,329 |
| 1896 | 13 | 6,769,851 | 187,845 | .... | 1,914,483 | 35,116,696 | 223,487 | 324,466 | 44,527,828 |
| 1897 | 13 | 5,766,554 | 175,037 | .... | 1,816,691 | 35,697,494 | 227,427 | 297,519 | 43,980,722 |
| 1898 | 13 | 5,564,870 | 200,310 | .... | 1,812,804 | 34,403,700 | 256,997 | 399,543 | 42,638,224 |
| 1899 | 13 | 5,805,622 | 217,136 | .... | 1,819,359 | 33,688,802 | 287,030 | 316,652 | 42,194,661 |
| 1900 | 13 | 5,933,076 | 193,050 | .... | 1,874,099 | 34,385,388 | 246,998 | 403,816 | 43,036,427 |
| 1901 | 13 | 6,403,147 | 211,802 | .... | 1,839,395 | 34,408,059 | 257,930 | 358,153 | 43,478,486 |

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## Metallic Reserves of Banks.

The proportion of metallic reserves which banking institutions must habitually keep in stock is not fixed by any enactment. Compared with the total liabilities, and with deposits at call and note circulation, the quantity of coin and bullion has varied very considerably from year to year, as the following statement shows; but prior to 1892 the proportion of gold to circulation and deposits at call rarely reached 50 per cent., and the proportion to total liabilities varied between 13 and 26 per cent. The approach of the crisis of 1893 was foreseen, or at all events most institutions strengthened their reserves in anticipation of the strain, while since the crisis all the banks have accumulated gold, so that their stock of coin and bullion in the June quarter of 1901 averaged £6,614,949—that is to say, nearly five times the note circulation, and nearly one-half of the total liabilities at call. There can be no doubt that the gold accumulations of the banks in the years 1894, 1895, and 1896 were greatly in excess of ordinary business requirements, and were maintained solely as a precaution against a revival of the unsettled conditions which marked the year 1893, but during the last five years a considerable reduction in the stocks of gold has taken place and large shipments of coin have been made to Europe and the United States :—

| Year. | Coin. | Bullion. | Total. | Proportion of Metallic Reserves— | |
|---|---|---|---|---|---|
| | | | | To total Liabilities. | To deposits at call and note circulation. |
| | £ | £ | £ | per cent. | per cent. |
| 1860 | 1,578,424 | 90,052 | 1,668,476 | 25·7 | * |
| 1865 | 1,328,504 | 125,554 | 1,454,058 | 20·9 | * |
| 1870 | 1,291,177 | 86,744 | 1,377,921 | 19·1 | * |
| 1875 | 2,317,600 | 104,947 | 2,422,547 | 16·1 | 40·4 |
| 1880 | 3,488,554 | 75,008 | 3,563,562 | 18·3 | 49·5 |
| 1885 | 4,027,055 | 76,260 | 4,103,315 | 13·8 | 39·2 |
| 1890 | 5,619,111 | 87,659 | 5,706,770 | 15·3 | 49·1 |
| 1891 | 4,717,659 | 79,768 | 4,797,427 | 12·8 | 44·2 |
| 1892 | 5,217,371 | 95,894 | 5,313,265 | 14·4 | 57·4 |
| 1893 | 5,877,891 | 95,386 | 5,973,277 | 17·5 | 57·7 |
| 1894 | 7,330,005 | 100,525 | 7,430,530 | 23·8 | 69·8 |
| 1895 | 7,364,659 | 151,619 | 7,516,278 | 23·5 | 65·7 |
| 1896 | 6,760,851 | 187,845 | 6,948,696 | 22·2 | 58·2 |
| 1897 | 5,766,554 | 175,037 | 5,941,591 | 19·2 | 50·4 |
| 1898 | 5,564,870 | 200,310 | 5,765,180 | 18·4 | 47·7 |
| 1899 | 5,865,622 | 217,136 | 6,082,758 | 18·4 | 46·4 |
| 1900 | 5,933,076 | 193,050 | 6,126,126 | 18·0 | 44·8 |
| 1901 | 6,403,147 | 211,802 | 6,614,949 | 18·9 | 46·0 |

* Amount of deposits at call unobtainable.

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### Advances by Banks.

Under the head of advances are included bills and promissory notes discounted, cash credits, and miscellaneous debts. The bulk of advances made are secured by the mortgage of real estate or by the depositing of deeds over which the lending institution acquires a lien ; the discounting of trade bills does not amount to more than about 15 per cent. of the total cash credits and overdrafts. The banking returns are in such a defective form that an account of the nature of advances made, and the class of security advanced against, cannot be given. The most interesting summary that can be made is that which the following table supplies :—

| Year. | Advances. | Ratio of Advances to Deposits. | Amount of Advances per Inhabitant. |
|---|---|---|---|
| | £ | per cent. | £ s. d. |
| 1860 | 5,780,700 | 111·9 | 16 17 6 |
| 1865 | 7,100,361 | 121·8 | 17 15 0 |
| 1870 | 7,814,116 | 127·9 | 15 18 11 |
| 1875 | 12,483,713 | 91·4 | 21 17 1 |
| 1880 | 17,210,205 | 96·2 | 23 12 4 |
| 1885 | 31,344,909 | 117·4 | 33 16 1 |
| 1890 | 43,009,559 | 121·3 | 39 0 8 |
| 1891 | 45,068,914 | 126·4 | 38 15 7 |
| 1892 | 44,135,729 | 124·1 | 37 0 8 |
| 1893 | 40,024,354 | 124·5 | 32 19 1 |
| 1894 | 37,378,947 | 125·4 | 30 3 3 |
| 1895 | 35,707,153 | 116·6 | 28 5 9 |
| 1896 | 35,116,696 | 117·7 | 27 9 2 |
| 1897 | 35,697,494 | 120·6 | 27 8 5 |
| 1898 | 34,403,700 | 115·2 | 26 0 0 |
| 1899 | 33,688,862 | 101·9 | 25 1 4 |
| 1900 | 34,385,388 | 101·2 | 25 4 0 |
| 1901 | 34,408,059 | 98·6 | 25 3 8 |

The useful purpose which the banking system serves may be readily realised from the foregoing statement. The period extending from 1875 right on to 1885 was, on the whole, one of trade prosperity, and throughout those years the ratio of advances to deposits ranged between 91 and 117 per cent. Since 1885 New South Wales, in common with the other states, has suffered more or less from depression, and the ratio of advances to deposits has fluctuated between 98½ and 126 per cent.

### Deposits in Banks.

The total amount of money deposited with the thirteen banks operating in New South Wales in the middle of 1901 was approximately £91,165,147, and of this sum £33,118,859 was received locally. The excess of the total over local deposits was employed in the various



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countries to which the banks' business extended, some of course being used in New South Wales; but, from the very nature of the transactions of the banks, it is not possible to do more than make a surmise as to the amount so used. Dealing only with local deposits, the following statement shows the average amount of money deposited at various periods commencing with 1860; the distinction between interest-bearing deposits and those at call was first made in 1875:—

| Year. | Deposits bearing Interest. | Deposits not bearing Interest. | Total Deposits. |
|---|---|---|---|
| | £ | £ | £ |
| 1860 | ..... | ..... | 5,164,011 |
| 1865 | ..... | ..... | 5,827,098 |
| 1870 | ..... | ..... | 6,107,999 |
| 1875 | 8,775,882 | 4,875,010 | 13,650,892 |
| 1880 | 11,948,383 | 5,934,641 | 17,883,024 |
| 1885 | 18,038,497 | 8,670,889 | 26,709,386 |
| 1890 | 25,395,600 | 10,064,518 | 35,460,118 |
| 1891 | 26,470,817 | 9,188,873 | 35,659,690 |
| 1892 | 26,357,083 | 9,207,109 | 35,564,192 |
| 1893 | 23,584,119 | 8,557,840 | 32,141,959 |
| 1894 | 20,380,032 | 9,412,761 | 29,792,793 |
| 1895 | 20,406,822 | 10,222,437 | 30,629,259 |
| 1896 | 19,128,305 | 10,707,611 | 29,835,916 |
| 1897 | 19,024,114 | 10,582,621 | 29,606,735 |
| 1898 | 19,040,496 | 10,812,215 | 29,852,711 |
| 1899 | 19,648,107 | 11,779,918 | 31,428,025 |
| 1900 | 20,009,081 | 12,224,510 | 32,233,591 |
| 1901 | 20,224,639 | 12,894,220 | 33,118,859 |

The deposits reached their highest level in 1891, when there was entrusted to the banks a total of £35,659,690; since the date mentioned deposits to the extent of fully five millions have been withdrawn, the reduction being entirely in interest-bearing deposits, which were very largely withdrawn in 1893 at the time of the bank crisis, and during the succeeding year. The withdrawals in 1894 were probably due to a combination of circumstances. Previous stoppages of payments had made many timorous depositors withdraw their fixed deposits on maturity, and place the money in the savings banks, as is evidenced by the fact that the New South Wales and Post Office Savings Banks increased their deposits by over one million and a half from 1892 to 1894; while the capital called up by the banks themselves absorbed a considerable sum which would otherwise have remained on deposit. To these two causes which tended to decrease the money on deposit with the banks may be added a third—the withdrawal of money for hoarding. That this last must have been considerable may be argued from the fact that the stock of gold in private hands was increased during 1893 by £1,003,473, and in 1894 by £321,793, while the gold needed for circulation probably decreased during those years. Since 1894 there has been a tendency to withdraw money from fixed deposit and to place

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it at current account. The current accounts have increased by over one million since 1894, while the total deposits have remained almost stationary since that period.

The interest offering for fixed deposits has now fallen to 3 per cent. for sums deposited for twelve months; for six months' deposits the interest allowed is at the rate of 1½ per cent. The practice of allowing interest on money fixed for terms of less than six months was discontinued in May, 1894. The rates quoted, which were fixed on the 4th March, 1896, are much the lowest that have been offered since banks were first opened for business, and money equal to their requirements is freely offered. The following is a statement of the average rates for twelve months' deposits from 1860 onwards. The figures of the last six years do not include interest payable on deferred deposits by reconstructed banks :—

| Year. | Bank Interest on Deposits for twelve months. | Year. | Bank Interest on Deposits for twelve months. |
|---|---|---|---|
| | per cent. | | per cent. |
| 1860 | 5 | 1893 | 4½ |
| 1865 | 6 | 1894 | 4¼ |
| 1870 | 5 | 1895 | 3½ |
| 1875 | 5¼ | 1896 | 3 |
| 1880 | 5 | 1897 | 3 |
| 1885 | 5 | 1898 | 3 |
| 1890 | 4½ | 1899 | 3 |
| 1891 | 4¾ | 1900 | 3 |
| 1892 | 5 | | |

Under normal conditions the annual rate of interest paid on fixed deposits is uniform for all banks; but some of the institutions which have undergone reconstruction have not been in a position to reduce the rates on a large proportion of the deposits, so that they are paying the ordinary market rate of 3 per cent. on deposits received since reconstruction, while rates varying from 2 to 5 per cent. are being paid on the extended deposits. The reconstructed banks have power to release their extended deposits at any time on giving the necessary notice of their intention to do so, and the deposits when renewed are being accepted at the ordinary or reduced rate.

The liability to depositors of the reconstructed banks at the dates of suspension was £58,914,585; but up to the end of March, 1901, £40,040,418 of the deposits had been liquidated, £2,594,940 turned into preferential share capital, and £7,390,200 into inscribed or perpetual stocks or debentures, so that there were then deposits to the extent of £8,889,027 awaiting release. The complete statement of the deposit

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accounts of the thirteen banks operating at the end of March, 1901, was as shown below :—

| Banks. | Deposits. | | | | | |
|---|---|---|---|---|---|---|
| | Capitalised (Preferential Capital). | Invested in Inscribed or Perpetual Stocks. | Extended deposits. | Fixed at ordinary rates. | At current account. | Total. |
| | £ | £ | £ | £ | £ | £ |
| Bank of New South Wales ..... | .... | .... | ..... | 11,537,699 | 10,052,377 | 21,590,076 |
| Commercial Banking Co. of Sydney (Ltd.) ..... | .... | .... | ..... | 6,710,455 | 4,303,346 | 11,013,801 |
| Australian Joint Stock Bank (Ltd.). | .... | 787,916 | 4,443,354 | 187,931 | 942,029 | 6,361,230 |
| City Bank of Sydney..... | .... | .... | ..... | 517,664 | 519,087 | 1,036,751 |
| Commercial Bank of Australia (Ltd.) | 2,117,230 | .... | 921,647 | 815,624 | 2,222,441 | 6,077,142 |
| National Bank of Australasia (Ltd.) | 805,780 | .... | ..... | 3,708,800 | 2,777,492 | 6,792,072 |
| Queensland National Bank (Ltd.).. | .... | 3,116,621 | 1,715,326 | 431,204 | 1,421,183 | 6,684,334 |
| Bank of North Queensland (Ltd.) .. | .... | 16,200 | ..... | 120,483 | 107,462 | 244,145 |
| Bank of New Zealand ..... | .... | .... | ..... | 3,379,414 | 5,303,090 | 8,682,504 |
| Bank of Australasia ..... | .... | .... | ..... | 7,218,708 | 6,753,365 | 13,972,073 |
| Union Bank of Australia (Ltd.).... | .... | 750,000 | ..... | 7,185,841 | 7,154,548 | 15,090,389 |
| London Bank of Australia (Ltd.) .. | 171,930 | .... | 1,592,634 | 1,320,176 | 1,339,685 | 4,424,425 |
| English, Scottish, and Australian Bank (Ltd.) ..... | .... | 2,719,463 | 215,866 | 673,568 | 1,363,279 | 4,972,176 |
| Total ..... | 2,594,940 | 7,390,200 | 8,889,027 | 43,807,567 | 44,259,384 | 106,941,113 |

The amount fixed at ordinary rates in the Commercial Bank of Australia, Limited, is exclusive of the deposits in the "Special Assets Trust Company, Limited"; while the inscribed or perpetual stocks of the English, Scottish, and Australian Bank, Limited, include debenture stocks. The Bank of New Zealand has also 4 per cent. guaranteed stock to the amount of £2,000,000.

Some of the reconstructed banks accept their own deposit receipts at face value in liquidation of debts owing to them, and in payment of calls where debtors are unable to pay cash. Holders of negotiable deposits, however, wishing to sell in open market are obliged to accept prices below the face value, as will be seen in the subjoined table, which gives the rates offered for deposits of six banks. Towards the close of 1895 the Bank of North Queensland and the Commercial Banking Company of Sydney released the balance of their locked-up deposits, and since then some of the other reconstructed banks have

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prepaid portion of their deposits. The prices here quoted are those ruling in Sydney at the beginning of October, 1901 :—

| Bank. | Buying Price. |
|---|---|
| | £ s. d. |
| Australian Joint Stock Bank (Ltd.)— | |
| Inscribed | 0 10 6 |
| A Deposits | 0 14 10 to 0 15 0 |
| B Deposits | 0 12 11 to 0 13 1 |
| Commercial Bank of Australia (Ltd.)— | |
| A | 0 18 9 |
| Deposits Trust | 0 15 6 |
| English, Scottish, and Australian Bank (Ltd.)— | |
| Debenture Stock | 0 18 0 |
| Terminable Deposits | 0 19 6 |
| Inscribed— | |
| Perpetual Preferred | 0 13 3 |
| Redeemable Deferred | 0 16 4 |
| London Bank of Australia (Ltd.) | 1 0 0 |
| Queensland National Bank (Ltd.) Inscribed | 0 12 0 to 0 12 6 |

The overdraft and discount rates remained almost stationary until 1895, but during the last five years a decrease has taken place, especi ally in the discount rates, while the decline since 1889 is almost equal to the fall in the deposit rates. Under ordinary circumstances, discount and overdraft rates should move down with the interest rates paid to depositors; and it is therefore evident, from a consideration of the profit and loss accounts of the various institutions, that the business of the banks has now attained a healthier condition than has existed since the crisis.

The rates for overdrafts and discounts for the ten years ended 1900 were as follow :—

| Year. | Overdraft Rates. | Discount Rates. | |
|---|---|---|---|
| | | Bills at 3 months. | Bills over 3 months. |
| | per cent. | per cent. | per cent. |
| 1891 | 9 | 7 | 8 |
| 1892 | 9 | 7 | 8 |
| 1893 | 8½ to 9 | 7 | 8 |
| 1894 | 7 ,, 9 | 6½ to 7 | 7 to 8 |
| 1895 | 7 ,, 8 | 6 ,, 6½ | 7 |
| 1896 | 6 ,, 7½ | 6 ,, 6½ | 7 to 8 |
| 1897 | 6 ,, 7 | 5 ,, 5½ | 5½ ,, 6½ |
| 1898 | 6 ,, 7 | 5 ,, 5½ | 5½ ,, 6½ |
| 1899 | 6 ,, 7 | 5 ,, 5½ | 5½ ,, 6½ |
| 1900 | 6 ,, 7 | 5 ,, 5½ | 5½ ,, 6½ |

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The bank exchange rate on London, at 60 days' sight, averages about 1 per cent., but is subject to a good deal of fluctuation. During the height of the bank panic in May, 1893, it was 3½ per cent., the banks at that date requiring all their available assets for other purposes. The rates for the ten years ended 1900 were :—

| Year. | Exchange rate on London at 60 days' sight. | |
|---|---|---|
| | Buying. | Selling. |
| | per cent. | per cent. |
| 1891 | 99⅛ to 100 | 100⅛ to 100⅞ |
| 1892 | 99⅜ ,, 99⅞ | 100½ ,, 100⅝ |
| 1893 | 97 ,, 99¼ | 100½ ,, 100¾ |
| 1894 | 99½ ,, 99⅞ | 100½ ,, 100¾ |
| 1895 | 99½ ,, 99¾ | 100⅜ ,, 100½ |
| 1896 | 99½ ,, 99¾ | 100½ ,, 100¾ |
| 1897 | 99½ ,, 100⅛ | 100½ ,, 100⅞ |
| 1898 | 99⅝ ,, 100 7/10 | 100½ ,, 100¾ |
| 1899 | 98¾ ,, 99⅛ | 100¼ ,, 100½ |
| 1900 | 98¾ ,, 99½ | 100¼ ,, 100⅜ |

## Banks' Exchange Settlement.

The Banks' Exchange Settlement Office, which was established in Sydney on the 18th January, 1894, is not a clearing-house in the accepted term, as the exchanges are still effected daily at the banks by clerks of each institution; but the results of the daily operations are notified to the Secretary of the Banks' Exchange Settlement, who establishes the daily credit of each bank with the "pool." The "pool" is placed in the hands of three trustees, and consists of £700,000 in gold, which is deposited in the vaults of three of the banks, and cannot be circulated or disturbed. The contributions to the "pool" are according to the volume of the operations of each bank. The Secretary notifies each bank daily of the amount of its credit with the "pool," and no bank is permitted to allow its balance to continue below 25 per cent. of the fixed contribution. In the event of its credit reaching this margin, the bank is required to make up its deficiency with gold; this payment, however, is not made to the "pool," but to such other banks as may happen to have at their credit with the "pool" a larger sum than is required by the agreement. This arrangement enables the £700,000 comprising the "pool" to remain intact.

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The volume of the exchanges from the establishment of the pool to the end of 1900 is shown in the following table:—

| Period. | Amount of Exchanges. |
|---|---|
| | £ |
| 18th Jan. to 31st Dec., 1894 ... .... | 101,242,905 |
| 1st ,, 30th ,, 1895 ..... | 108,509,860 |
| 31st Dec., 1895, to 31st Dec., 1896... | 117,718,862 |
| 1st Jan. to 31st Dec., 1897 ..... | 121,645,873 |
| ,, ,, 1898 ..... | 126,978,018 |
| ,, ,, 1899 ..... | 146,188,144 |
| ,, ,, 1900 ..... | 144,080,314 |

## Note Circulation of Banks.

The issue of paper money is not at present limited by any enactment, the law regulating note issue having lapsed on the 9th October, 1895. Under the Stamp Duties' Act of 1880 a note tax of 2 per cent. is imposed on the average circulation of each bank within the state; this tax on the present issue yields a return of about £25,000 per annum. The note circulation of banking companies has been declining, not only as compared with the population, but in actual volume. In 1885 there was an average of £1,793,686, representing about £1 18s. 8d. per inhabitant; while in 1901 the total had fallen to £1,498,035, and the average per inhabitant to £1 1s. 11d. In 1860 the note circulation was as much as £2 17s. 5d. per head, and in 1882, £2 1s. 10d. The following is a statement of the average note issue and bills in circulation at intervals since 1860:—

| Year. | Notes in Circulation. | Bills in Circulation. | Total. | Average per Inhabitant. |
|---|---|---|---|---|
| | £ | £ | £ | £ |
| 1860 | 949,849 | 62,505 | 1,012,354 | 2·95 |
| 1865 | 729,076 | 67,875 | 796,951 | 1·99 |
| 1870 | 695,366 | 50,515 | 745,881 | 1·52 |
| 1875 | 1,114,411 | 37,008 | 1,151,419 | 1·97 |
| 1880 | 1,260,772 | 51,698 | 1,312,470 | 1·80 |
| 1885 | 1,793,686 | 59,327 | 1,853,013 | 2·00 |
| 1890 | 1,557,805 | 127,442 | 1,685,247 | 1·53 |
| 1891 | 1,674,049 | 146,202 | 1,820,251 | 1·57 |
| 1892 | 1,439,872 | 104,223 | 1,544,095 | 1·30 |
| 1893 | 1,804,531 | 75,086 | 1,879,617 | 1·55 |
| 1894 | 1,235,989 | 146,911 | 1,382,900 | 1·12 |
| 1895 | 1,223,864 | 117,327 | 1,341,191 | 1·06 |
| 1896 | 1,237,971 | 111,889 | 1,349,860 | 1·06 |
| 1897 | 1,227,964 | 112,113 | 1,340,077 | 1·03 |
| 1898 | 1,278,940 | 125,414 | 1,404,354 | 1·06 |
| 1899 | 1,340,557 | 202,468 | 1,543,025 | 1·15 |
| 1900 | 1,447,641 | 209,905 | 1,656,546 | 1·21 |
| 1901 | 1,498,035 | 233,395 | 1,731,430 | 1·28 |

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The law does not require any special reserve to be maintained against bank notes, but, as already pointed out, the note issue is many times covered by the reserves; thus in June, 1901, the note issue stood at £1,498,035, while the gold in hand was £6,614,949.

The lowest value for which notes are issued is one pound, and the bulk of the issue is of this denomination. During the operation of the Bank Notes' Act of 1893, under which the issues of certain banks (twelve in number) were a first charge on their assets, and were legal tender throughout the state at all places except the head offices of the banks issuing, there was a special tax of 2½ per cent. on the average monthly issue. This tax was in substitution of the stamp duty of 2 per cent., and ceased with the lapse of the Act in October, 1895.

## Working Expenses and Profits.

The published balance-sheets of banks as a rule give very meagre information of the results of their working, and with one exception it is impossible to ascertain the amount of the gross profits. In the matter of management expenses equal reticence is observed, not one bank whose head office is in the state giving this information to its shareholders. The net profits are therefore the only data on which a comparative statement can be based, and the ratio of such to paid-up capital and reserves, and to the banks' trading and total assets, will be found in the subjoined statement:—

| Bank. | Net Profits for twelve months, 1900-1901. | Ratio of Net Profits to— | | |
|---|---|---|---|---|
| | | Paid-up Capital and Reserves. | Total Trading Assets. | Total Assets of all kinds. |
| | £ | per cent. | per cent. | per cent. |
| Bank of New South Wales | 200,617 | 6·12 | 0·71 | 0·69 |
| Commercial Banking Co. of Sydney (Limited) | 102,738 | 5·05 | 0·70 | 0·68 |
| Australian Joint Stock Bank (Limited) | 5,012 | 0·36 | 0·06 | 0·06 |
| City Bank of Sydney | 16,327 | 3·20 | 1·06 | 0·97 |
| Commercial Bank of Australia (Limited) | 70,082 | 2·14 | 1·04 | 0·95 |
| National Bank of Australasia (Limited) | 58,832 | 3·75 | 0·65 | 0·59 |
| Queensland National Bank (Limited) | 24,000 | 5·46 | 0·34 | 0·33 |
| Bank of North Queensland (Limited) | 7,365 | 6·65 | 1·72 | 1·64 |
| Bank of New Zealand | 210,605 | 8·44 | 1·65 | 1·56 |
| Bank of Australasia | 279,889 | 11·02 | 1·47 | 1·44 |
| Union Bank of Australia (Limited) | 171,827 | 6·75 | 0·89 | 0·86 |
| London Bank of Australia (Limited) | 14,816 | 1·60 | 0·24 | 0·23 |
| English, Scottish, and Australian Bank (Limited) | 23,465 | 3·67 | 0·41 | 0·38 |

The results shown in the above table must be regarded as very satisfactory when compared with the figures for the preceding four years. All the banks have succeeded in carrying on operations at a profit, and although in some cases the amount is small, it should be remembered

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that the drought of the last five seasons precluded any large additions to the profits. Moreover, four of the institutions showed an absolute loss on the transactions of the year 1896–7, so that the recovery is a still further evidence of the returning prosperity of the people.

Intimately connected with the question of profits is that of working expenses, and it must be confessed that the cost of working banking institutions in Australasia is undoubtedly large. This is partly due to the wide and sparsely populated area over which operations are carried on, and partly to the class of business in which banks are engaged. The following is a statement of the cost of management of the several banks enumerated :—

| Bank. | Expenses of Management for twelve months, 1900–1901. | |
|---|---|---|
| | Total. | Ratio to bank's resources (Paid-up Capital, Reserves, Deposits, and Note Circulation). |
| | £ | per cent. |
| Bank of New South Wales | * | .... |
| Commercial Banking Company of Sydney (Limited) | * | .... |
| Australian Joint Stock Bank (Limited) | 74,442 | 0·94 |
| City Bank of Sydney | * | .... |
| Commercial Bank of Australia (Limited) | 95,442 | 1·37 |
| National Bank of Australasia (Limited) | 113,387 | 1·35 |
| Queensland National Bank (Limited) | 71,391 | 1·00 |
| Bank of North Queensland (Limited) | 11,458 | 2·83 |
| Bank of New Zealand | 169,049 | 1·41 |
| Bank of Australasia | 251,193 | 1·51 |
| Union Bank of Australia (Limited) | 226,853 | 1·25 |
| London Bank of Australia (Limited) | 74,641 | 1·32 |
| English, Scottish, and Australian Bank (Limited) | 84,487 | 1·47 |

* Information not available.

It will be observed that the expenses of working three of the four local banks are not shown in the statement just given. These banks do not disclose even to their shareholders the details of their business, so that the reference to the cost of banking business is seriously incomplete ; but taking such banks as are enumerated as a guide to the whole of the institutions, the total expenses of management of the thirteen banks which have offices in the state may be set down for the year 1900–1901 at £1,720,070.

The following statement may be taken as approximately correct :—

| | |
|---|---|
| Total trading assets | £138,542,240 |
| Capital and reserves | 21,742,850 |
| Gross earnings, less reserve for bad and doubtful debts, and rebate on bills current | 5,225,160 |
| Gross expenditure, including interest | 4,039,530 |
| Net earnings | 1,185,630 |

Compared with the total assets, the net earnings represent 0·82 per cent., and compared with the banks' own resources—*i.e.*, capital and reserved profits—5·45 per cent. The gross expenditure set down above

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may be divided into expenses of management, £1,720,070, and interest, £2,319,460; these together amount to 77·31 per cent. of the gross earnings, the management expenses being 32·92 per cent., and the interest 44·39 per cent. It would therefore appear that for every £1 of net earnings, £1 9s. 0d. are spent in management expenses, and £1 19s. 2d. in interest. The cost of working banking institutions in Australia is undoubtedly very large; but this class of business is everywhere expensive, and an analysis of the balance-sheets of twenty British joint stock banks shows that the expenses of management amount to nearly 16s. for every £1 of net earnings.

In order that a comparison may be made with the results obtained before the financial crisis, the following figures for the year 1892 are given:—

| | |
|---|---|
| Total trading assets | £155,582,833 |
| Capital and reserves | 19,084,148 |
| Gross earnings, less reserve for bad and doubtful debts | 7,638,400 |
| Gross expenditure, including interest | 6,068,600 |
| Net earnings | 1,569,800 |

The net earnings in 1892 equalled 1·01 per cent. of the total assets, and 8·23 per cent. of capital and reserves.

The following table affords a comparison of the working of New South Wales banks with the joint stock banks in the United Kingdom. The figures relate to the year 1900:—

| Banks. | No. of Banks. | Capital and Reserves. | | | Total Earnings. | Deposits. | |
|---|---|---|---|---|---|---|---|
| | | Paid-up Capital. | Reserves and Undivided Profits. | Total. | | Total. | Percentage of Earnings to Deposits. |
| | | £ | £ | £ | £ | £ | |
| English .... | 80 | 61,194,000 | 45,706,000 | 106,900,000 | 7,622,600 | 631,626,000 | 1·21 |
| Scotch..... | 11 | 9,316,000 | 8,037,000 | 17,353,000 | 1,615,600 | 107,154,000 | 1·51 |
| Irish ..... | 9 | 7,209,000 | 4,222,000 | 11,431,000 | 971,400 | 49,449,000 | 1·96 |
| N. S. Wales.. | 13 | 16,807,000 | 4,936,000 | 21,743,000 | 1,185,600 | 104,863,000 | 1·13 |

The net profits of the banks of this state, and the allotment of such under the accepted heads, are given below. It will be noticed that in a few instances only have the reserve funds been strengthened. The particulars are as follow, the dates of the balance-sheets being shown on page 876. The figures for the Bank of New Zealand are for twelve months, and the net profit shown (£210,665) is exclusive of the dividend paid on preference shares (£9,577), and the interest (£80,000) on Government stock, neither of which appears in the balance-sheet. An amount of £17,000 was appropriated in reduction of the book value of the assets in liquidation; £35,360 in reduction of the Debenture Conversion Account; £60,000 in reduction of the Colonial Bank Purchase Goodwill Account, and £48,305 in reduction of Property

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Accounts. The amount shown as brought forward (£50,000) was paid to the Assets Realisation Board, and the amount carried forward (£50,000) will also be paid to the same Board.

| Bank. | Balance brought forward. | Net Profits for half-year. | Total. | Half-yearly Dividend. | | Amount transferred to Reserve Fund, etc. | Amount carried forward. |
|---|---|---|---|---|---|---|---|
| | | | | Rate per cent. per annum. | Amount. | | |
| | £ | £ | £ | | £ | £ | £ |
| Bank of New South Wales .... | 26,743 | 100,154 | 126,897 | 10 | 100,000 | Nil. | 26,897 |
| Commercial Banking Co. of Sydney (Ltd.). | 21,661 | 51,228 | 72,889 | 10 | 50,000 | Nil. | 22,889 |
| Australian Joint Stock Bank (Ltd.). | 14,611 | 2,465 | 17,076 | Nil. | Nil. | Nil. | 17,076 |
| City Bank of Sydney ..... | 9,575 | 8,105 | 17,680 | 4 | 8,000 | Nil. | 9,680 |
| Commercial Bank of Australia (Ltd.). | 13,747 | *34,929 | 48,676 | Pref. 3<br>Ord. nil. | 31,758 | Nil. | 16,918 |
| National Bank of Australasia (Ltd.). | 11,737 | 28,448 | 40,185 | Pref. 5<br>Ord. 3 | 25,531 | Nil. | 14,654 |
| Queensland National Bank (Ltd.). | Nil. | †12,000 | 12,000 | Nil. | Nil. | §12,000 | Nil. |
| Bank of North Queensland (Ltd.). | 154 | 3,907 | 4,061 | 2½ | 1,312 | 2,000 | 749 |
| Bank of New Zealand** ..... | 50,000 | 210,665 | 260,665 | Nil. | ¶ | ¶ | ¶50,000 |
| Bank of Australasia ..... | 12,575 | ‖131,466 | 144,041 | 10 | 80,000 | 50,000 | 14,041 |
| Union Bank of Australia (Ltd.). | 19,865 | 79,825 | 99,690 | 7 | 52,500 | ¶¶25,000 | 22,190 |
| London Bank of Australia (Ltd.).** | 10,173 | 14,816 | 24,989 | Pref. 5½<br>Ord. nil. | 14,184 | Nil. | 10,805 |
| English, Scottish, and Australian Bank (Ltd.).** | 411 | §§23,465 | 23,876 | 2½ | 13,486 | ‖‖3,372 | 7,018 |

* After allotting £30,000 to Assets Special Reserve Account; not included in balance sheet. † After allotting £15,713 to Contingency Account; not included in balance sheet. § Including repayment of £3,000 to Queensland Government and £6,000 to Private Depositors Repayment Fund. ¶ The figures shown for the Bank of New Zealand are explained in the text preceding the table. ‖ Exclusive of £20,000 applied to the reduction in value of bank premises. ** Figures for twelve months. §§ After allotting an additional sum of £15,000 to the Reserve Fund, Perpetual Stocks, and terminable deposit receipts. ¶¶ Applied to the release from Contingency Account of a similar amount, which has been transferred to the Reserve Fund. ‖‖ For the purchase and cancellation of Deferred Inscribed Deposit Stock.

Most of the banks have contrived to reduce their working expenses during the last few years; this has been accomplished mainly by closing unprofitable branches. The amount for 1900–1901, however, shows a slight increase over that of the previous two years, but the general growth of banking business compensates for the larger expenditure.

The number of banks and branches open throughout New South Wales in 1901 was 411, or 93 less than in 1892. This gives a proportion of one bank or branch to every 3,300 persons. In England the proportion is one bank to 8,000 persons, in Scotland one to every 4,000, and in Ireland 1 to every 8,000.

### Dividends of Banks.

No feature of banking business was, until a few years ago, so conspicuous as the large dividends. The vast changes brought about by the bank crisis of 1893 materially interfered with the earning powers of banks, and of the thirteen operating in the state five were not able to declare a dividend on their ordinary share capital during the year

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1900-1901. A comparison between 1892-3—that is, the year before the crisis—and the year 1900-1901 is afforded by the following table, which refers only to dividends paid on ordinary share capital :—

| Bank. | Dividend per cent. | |
|---|---|---|
| | 1892-3. | 1900-1901. |
| Bank of New South Wales | 17½ | 10 |
| Commercial Banking Company of Sydney (Limited) | 25 | 10 |
| Australian Joint Stock Bank (Limited) | 15 | Nil. |
| City Bank of Sydney | 10 | 4 |
| Commercial Bank of Australia (Limited) | 12½ | Nil. |
| National Bank of Australasia (Limited) | 12½ | 3 |
| Queensland National Bank (Limited) | 10 | Nil. |
| Bank of North Queensland (Limited) | 5 | 2½ |
| Bank of New Zealand | 5 | Nil. |
| Bank of Australasia | 12½ | 10 |
| Union Bank of Australia (Limited) | 12 | 7 |
| London Bank of Australia (Limited) | 8 | Nil. |
| English, Scottish, and Australian Bank (Limited) | 4 | 2½ |

## Savings Banks.

The institutions classed as savings banks may be divided into two kinds—those worked in conjunction with the Post Office, and, consequently, directly administered by the State; and those under trustees, who are nominated by the Government. The declared objects of these banks are to encourage thrift in the working classes, and to provide a safe investment for the funds of charitable institutions, friendly societies, and such like. The savings banks have, however, become so popular that all classes of the community are represented among their depositors.

The Post Office or Government Savings Bank was established in 1871, and the Savings Bank of New South Wales as far back as 1832. The rate of interest in the former institution was reduced on the 1st July, 1896, to 3 per cent. per annum. At the close of 1900 the liabilities of the bank amounted to £6,070,630, of which £6,045,622 represented deposits, and £25,008 balance of profit and loss account. The investments made by the Treasury on behalf of the bank were as follow:—

| | £ |
|---|---|
| Government Debentures | 165,800 |
| Funded Stock, 36 Vic. No. 21 | 403,248 |
| ,, 56 Vic. No. 1 | 1,000,000 |
| 1924 Stock, 58 Vic. No. 14 | 20,000 |
| 1925 ,, and Funded Stock, 59 Vic. No. 6 | 1,030,000 |
| Treasury Bills, 53 Vic. No. 9 | 372,600 |
| ,, 59 Vic. No. 22 | 1,024,700 |
| N.S.W. Funded Stock, 60 Vic. No. 32 | 1,000,000 |
| Stock issued under Advances to Settlers Act of 1899 | 100,000 |
| Cash at credit of Trust Account | 816,556 |
| ,, in hands of Controller | 47,375 |
| Interest due on Investments and on uninvested Funds, at 3 per cent. | 90,351 |
| Total | £6,070,630 |

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The Savings Bank of New South Wales was originally administered by nine trustees, one of whom was vice-president; but under an amending Act passed in 1853, the number may be increased, but cannot exceed eighteen. The trustees have power to nominate a managing trustee, who, if not already a trustee, becomes one *ex-officio*. The number of trustees at the end of 1900 was fourteen, exclusive of the managing trustee. Unlike those of the Post Office Savings Bank, the funds of this institution are applied to investments of a general nature, such as mortgages Government and municipal securities, and deposits with banks of issue and the Treasury. The amount invested under each head, including interest accrued, at the close of 1900, was as follows:—

| How invested. | Amount. |
|---|---|
| | £ |
| Mortgages | 836,598 |
| Government and Municipal Securities | 293,129 |
| Fixed Deposits:— | |
| Banks of Issue | 955,533 |
| Treasury | 2,877,355 |
| Uninvested | 153,107 |
| Total £ | 5,115,722 |

The reserve fund, depreciation account, and profit and loss account, on the 31st December, 1900, amounted to £259,688. According to the published statements of this institution, it could pay £1 1s. 0⅘d. for every £1 liability. The classification of the deposits on the 1st January, 1901, was as follows:—

| Classification. | Depositors. | Deposits. | Average per Depositor. |
|---|---|---|---|
| | No. | £ | £ s. d. |
| £20 and under | 45,351 | 197,012 | 4 6 11 |
| Over £20 and under £50 | 11,538 | 374,197 | 32 8 8 |
| £50 and under £100 | 8,712 | 617,523 | 70 17 8 |
| £100 ,, £200 | 9,640 | 1,320,952 | 137 0 7 |
| £200 ,, £300 | 8,730 | 1,856,843 | 212 13 11 |
| £300 and upwards | 658 | 489,233 | 743 10 6 |
| Total | 84,629 | 4,855,760 | 57 7 6 |

During 1900 interest was allowed in the New South Wales Savings Bank at the rate of 3 per cent. per annum on accounts closed during the year. On accounts current at the close of a year a higher rate was formerly allowed; this latter was fixed at 3½ per cent. Both in the Post Office Savings Bank and in the New South Wales Savings Bank

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sums of 1s. and any multiple of that amount may be deposited; but with the exception of the funds of charitable institutions and friendly societies deposits exceeding £200 do not bear interest on such excess. The bulk of the deposits over £200 probably belongs to institutions of the classes mentioned.

During the year 1900 there was an increase of 21,817 in the number of depositors in the savings banks, and of £831,948 in the amount of the deposits. This increase belonged almost wholly to the Post Office Bank as far as the amount is concerned, while the increase in the number of depositors in the Post Office banks was over five times that in the Savings Bank of New South Wales. By comparing the annual figures giving the amount deposited per inhabitant, the increase will be found to be proportionately greater than that of the population. The number of depositors at the close of the last three years and the amounts to their credit were as follow :—

| Banks. | 1898. | | 1899. | | 1900. | |
|---|---|---|---|---|---|---|
| | Depositors | Deposits. | Depositors | Deposits. | Depositors | Deposits. |
| | No. | £ | No. | £ | No. | £ |
| Savings Bank of New South Wales | 78,813 | 4,454,875 | 81,300 | 4,584,399 | 84,629 | 4,855,760 |
| Post Office Banks... | 163,552 | 5,026,069 | 179,526 | 5,485,035 | 198,014 | 6,045,622 |
| Total ..... | 242,365 | 9,480,944 | 260,826 | 10,069,434 | 282,643 | 10,901,382 |

## Registered Companies.

The Land, Building, Investment, and Trading Companies established with the object of making profit and doing general business, may be registered under the Companies Act of 1874; Benefit Building, Investment, Co-operative, and Industrial Societies, worked for the mutual benefit and advantage of the subscribing members only, may be registered under the Friendly Societies' Act of 1873; and Mining Companies in which the shares carry no liability fall under the No-liability Mining Companies' Act of 1896.

The provisions of the Companies' Act are so framed that they are applicable to nearly all classes of financial institutions, very few of which are now carried on under special Acts. According to the records of the Registrar of Joint Stock Companies, there appeared to be about 675 companies whose registration held good at the middle of 1901, but it is believed that in this number are included some companies which have really passed out of existence without the formal and legal steps required by the Act being taken.

Registered companies are required to furnish their shareholders with a periodical balance-sheet, according to a prescribed form, and to forward to the Registrar an annual statement showing the share register and the

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transactions of the capital account. Besides this, companies registered subsequent to the year 1879, receiving money on deposit within the state, are required to furnish quarterly statements of the average assets and liabilities of their local business in the same manner as banking companies. Of the 675 companies in operation at the middle of 1901, only 16 were returned as receiving money on deposit, in addition to one company registered under the Victorian Act; the remaining companies, with an exception here and there, conduct their business on the subscribed capital alone. The 675 companies referred to above are exclusive of 5 companies registered under section 8, the liability of members being limited by guarantee; 2 companies with unlimited liability, under sections 9 and 224; and 17 companies, not for profit, registered under section 54.

The registrations under the Companies' Act for the five years ended 1900 were :—

| Registrations. | 1896. | 1897. | 1898. | 1899. | 1900. |
|---|---|---|---|---|---|
| New Companies registered | 71 | 62 | 88 | 87 | 93 |
| Companies wound-up | 55 | 39 | 49 | 54 | 43 |
| Declarations, statements, etc., that certain Companies have been defunct | 46 | 16 | 13 | .... | .... |
| Amount of fees received £ | 899 | 867 | 1,079 | 1,318 | 1,145 |

In the number of companies shown in the above table as wound up are included several defunct companies which have been reconstructed, and in the number shown as having become defunct during the same period are included many which ceased operations in previous years without notifying the Registrar at the proper time; still, after making all necessary allowances on these points, the five years mentioned show an unusually large number of winding-up notices.

During 1890 most of the deposit, land, building, and investment companies were presumed to be in a flourishing condition. Their dividends to shareholders were very large, and the rates allowed on deposits were considerably in excess of those current in the banks of issue. As might have been expected, the high interest offered was too tempting a bait to be resisted by a section of the investing public, and large sums were placed in these institutions with the utmost confidence that they would be available when required. This confidence, unfortunately, proved to be, in many instances, unmerited. The shrinkage of land values, and the depreciation of real estate generally, put an end to all unsound institutions working on speculative lines, as well as to some other companies that were conducted on reasonable principles. In August, 1891, three of these institutions suddenly suspended payment, and they were followed within a short time by others, several of which were placed in liquidation; while a considerable number of the existing institutions are now carrying on their business under the provisions of the Joint Stock Companies Arrangement Act of 1891, which was

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passed to afford relief to *bona fide* institutions which, through no fault of their own, became embarrassed. This Act expired on 1st January, 1896, but Parliament extended its operations until the 1st January, 1899.

The liabilities, assets, and paid-up capital of the seventeen deposit companies, for the quarter ended June, 1901, were as follow :—

| Companies. | Number. | Liabilities (exclusive of Liabilities to Shareholders). | | | Assets. | | | Paid-up Capital. |
|---|---|---|---|---|---|---|---|---|
| | | Deposits. | Other Liabilities. | Total. | Landed Property. | Other Assets. | Total. | |
| | | £ | £ | £ | £ | £ | £ | £ |
| Investment ..... | 14 | 563,962 | 449,278 | 1,013,240 | 1,159,728 | 464,060 | 1,623,788 | 1,212,288 |
| Trading ..... | 3 | 87,054 | 459,484 | 546,538 | 883,507 | 3,221,761 | 4,110,268 | 2,526,776 |
| Total ..... | 17 | 651,016 | 908,762 | 1,559,778 | 2,043,235 | 3,685,821 | 5,734,056 | 3,739,074 |

The difficulties into which the deposit companies fell may for the most part be attributed to their practice of borrowing money for short periods, and locking it up for long terms. Besides this, however, many so-called building societies indulged in speculative land purchases, and having retailed the land at enhanced prices, with payments over extended periods, proceeded to divide the presumed profits among the shareholders, with a result that might easily have been foreseen, for in many cases the purchasers, after paying a few instalments toward the price, left the allotments on the hands of the companies, whose anticipated profits were therefore purely visionary, and whose dividends were really never earned, but, in many instances, were merely taken from the deposits.

### Benefit Building and Investment Societies.

According to the provisions of the Friendly Societies Act of 1873, any number of persons may form themselves into a Benefit Building and Investment Society for the purpose of raising money by subscription to enable members to erect and purchase dwellings, etc., which must be secured to the society by mortgage until the amount of the shares has been fully paid. These institutions, as previously mentioned, are established solely for the benefit and advantage of the subscribing members, and their operations are, as a rule, confined to the subscriptions. There were, however, 10 institutions in 1900 receiving money on deposit from the general public, the aggregate amount of which was £283,690. At the close of 1900 the Benefit Building and Investment Societies which had been registered under the Friendly Societies Act numbered 135, of which only 37 were in operation at that date. Of the other institutions, some had ceased to exist through being Terminating

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Societies; others had become Limited Companies under the Companies Act, and consequently ceased to operate under the Friendly Societies Act; and a large number had become defunct.

Returns have been received from the 37 institutions operating. The liabilities and assets, etc., of these 37 societies at the date of their latest balance-sheets were as follow :—

| Societies. | Number. | Liabilities (exclusive of Liabilities to Shareholders). | | | Assets. | | | Paid-up Capital and Contingency Funds. |
|---|---|---|---|---|---|---|---|---|
| | | Deposits. | Other Liabilities. | Total. | Advances. | Other Assets. | Total. | |
| | | £ | £ | £ | £ | £ | £ | £ |
| Starr-Bowkett | 14 | Nil. | 47 | 47 | 84,582 | 3,994 | 88,576 | 80,083 |
| Building | 6 | 4,990 | 21,022 | 26,012 | 43,928 | 3,288 | 47,216 | 27,472 |
| Building and Investment. | 12 | 116,783 | 4,604 | 121,337 | 293,200 | 22,301 | 315,501 | 196,969 |
| Land, Building, and Investment. | 5 | 161,967 | 9,692 | 171,659 | 317,919 | 55,602 | 373,521 | 197,423 |
| Total | 37 | 283,690 | 35,365 | 319,055 | 739,629 | 85,185 | 824,814 | 500,947 |

The amount of paid-up capital and contingency funds shown is exclusive of a net amount of £43,487 at credit of profit and loss account.

### Co-operative Trading and Industrial Societies.

Particulars of these societies are given in the chapter of this volume dealing with Employment and Production.

### No-Liability Mining Companies.

Under the No-Liability Mining Companies' Act of 1896, which repealed the 1881 Act, shareholders in any mining company registered under the Act are not liable to be sued for calls or contributions, but they are not entitled to receive dividends on shares upon which a call is due and unpaid; if calls are made, and not paid within fourteen days after the expiration of the period fixed for payment, the shares are forfeited. Companies registered under this Act are also subject to certain provisions of the Companies' Act of 1874. The total registrations during the last fifteen years numbered only 591; it would therefore appear that, in spite of the low registration fees, the provisions of the Act are not very largely made use of. The registrations during the last ten years were as follow :—

| Year. | Registrations. |
|---|---|
| 1891 | 76 |
| 1892 | 43 |
| 1893 | 15 |
| 1894 | 25 |
| 1895 | 37 |
| 1896 | 44 |
| 1897 | 36 |
| 1898 | 33 |
| 1899 | 47 |
| 1900 | 61 |



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### Total Deposits in Banks and Investment Companies.

The amount of deposits at the end of each of the last ten years in the Banks of Issue, the Savings Banks, and the Building and Investment Companies is given in the subjoined table. The increase during the first four years was rapid, not only absolutely, but also as compared with the increase in population; but in the course of the last four years the amount per head has fallen considerably. During the period of ten years embraced in the table, the deposits fluctuated between £43,597,314 and £44,302,056, the rate per head being £32 14s. 3d. in 1900 as compared with £38 3s. 6d. in 1891. The amount under each head on 31st December of each year was as follows :—

| Year. | Deposits. | | | | |
|---|---|---|---|---|---|
| | In Banks of Issue. | In Savings Banks. | In Building and Investment Companies. | Total. | Amount per head of Population. |
| | £ | £ | £ | £ | £ s. d. |
| 1891 | 35,659,690 | 5,342,135 | 2,595,489 | 43,597,314 | 38 3 6 |
| 1892 | 35,564,192 | 5,706,081 | 2,082,223 | 43,352,496 | 36 16 8 |
| 1893 | 32,141,959 | 6,535,758 | 1,516,567 | 40,194,284 | 33 8 2 |
| 1894 | 29,792,793 | 7,217,009 | 1,836,540 | 38,846,333 | 31 13 3 |
| 1895 | 30,629,257 | 8,073,575 | 1,289,016 | 39,991,848 | 31 19 6 |
| 1896 | 29,835,916 | 8,522,623 | 1,335,416 | 39,693,955 | 28 17 7 |
| 1897 | 29,606,735 | 9,136,793 | 1,078,696 | 39,822,224 | 30 17 3 |
| 1898 | 29,852,711 | 9,480,944 | 1,087,095 | 40,420,750 | 30 15 11 |
| 1899 | 31,428,025 | 10,069,434 | 1,132,305 | 42,629,764 | 31 19 4 |
| 1900 | 32,233,591 | 10,901,382 | 1,167,083 | 44,302,056 | 32 14 3 |

The deposits in investment and building companies for the seven years from 1894 to 1900 are inclusive of the amounts deposited in benefit, building, and investment societies registered under the Friendly Societies' Act, viz. :—£554,729 in 1894, £473,880 in 1895, £424,292 in 1896, £319,335 in 1897, £306,492 in 1898, £299,604 in 1899, and £283,690 in 1900. Similar information for years prior to 1894 is not available.

### Trade Marks.

The Trade Marks Act of 1865 provides for the registration of trade marks and for the prevention of the fraudulent marking of merchandise. During the thirty-six years the Act has been in force, 7,588 trade marks, or an average of 210 per annum, have been registered, the average of the last few years being considerably in excess of that for the whole period. The more careful discrimination now exercised with regard to the designs submitted has had the effect of bringing the Act into greater favour. The registration of a trade mark does not confer any

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patent rights, but acts as a commercial safeguard and as an encouragement to manufacturers to produce goods of a superior quality.

The goods or manufactures which may be protected by trade marks are classified for the purposes of efficient registration into fifty main divisions; the fees, however, are the same for each class. The transactions under the Act and the fees received during each of the five years ended 1900 were as follow:—

| Transactions. | 1896. | 1897. | 1898. | 1899. | 1900. |
|---|---|---|---|---|---|
| Applications for trade marks..... | 473 | 467 | 453 | 495 | 397 |
| New trade marks granted ..... | 355 | 361 | 311 | 310 | 362 |
| Trade marks transferred ..... | 26 | 64 | 50 | 83 | 100 |
| ,, refused and withdrawn | 37 | 61 | 53 | 50 | 41 |
| Amount of fees received .....£ | 1,389 | 1,542 | 1,304 | 1,317 | 1,364 |

The figures given do not wholly apply to registrations of local manufacturers, as trade marks, like patents, are unprotected in the state if not registered locally. The registration fees are a source of income to the state, as an application for registration costs three guineas, and a transfer of a trade mark one guinea; no charges are, however, made for applications withdrawn or refused. The fees collected during 1900 amounted to £1,365, or £220 more than those received for registrations under the Companies Act.

## Money Orders and Postal Notes.

The money order and postal note systems are worked in conjunction with the Post Office Savings Bank, the three constituting one of the sub-departments administered by the Postmaster-General. Under the money order system money may be transmitted from any part of New South Wales where an office is open to any part of the civilised world. The orders are sent either direct to the place of payment or through intermediary agencies, all places within New South Wales or the neighbouring states being dealt with direct, while to places outside Australia the intermediary system is applied. Under the postal note system exchanges are effected between this state and Victoria, Queensland, South Australia, and Tasmania; but its original object was to afford means of transmitting amounts of £1 and under to places within the state. As regards small remittances within the state, the money order and postal note systems cover somewhat the same ground; but as the convenience both of sender and receiver is in favour of the postal note, it is anticipated that the money order system will be almost entirely confined to business of more than £1.

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The money order system was adopted in January, 1863. In that year there were 3 orders issued for every 100 persons in the state, and the total value of the orders was £53,862; while in 1900 the number had risen to 32·63 per 100 inhabitants, and the total value to £1,507,967. The growth of the business has been mainly due to the extension of the sphere of operations, both locally and elsewhere, and to the greater appreciation of the system, especially by the wage-earning class of the community. Appended is a statement of the business transacted in 1900:—

| Issued in New South Wales. | | | Drawn on New South Wales. | | |
|---|---|---|---|---|---|
| Drawn on— | Number | Value. | Issued and paid in— | Number | Value. |
| | | £ | | | £ |
| Commonwealth of Australia— | | | Commonw'th of Australia— | | |
| New South Wales (Inland).. | 331,570 | 1,182,554 | New South Wales (Inland) | 331,206 | 1,178,713 |
| Victoria | 30,615 | 91,377 | Victoria | 15,463 | 54,297 |
| Queensland | 8,587 | 34,037 | Queensland | 22,131 | 79,823 |
| South Australia | 12,982 | 39,780 | South Australia | 5,214 | 16,886 |
| Western Australia | 3,861 | 14,931 | Western Australia | 19,658 | 79,184 |
| Tasmania | 17,040 | 23,541 | Tasmania | 9,301 | 30,709 |
| New Zealand | 4,956 | 17,632 | New Zealand | 14,924 | 40,539 |
| United Kingdom and Europe | 25,461 | 66,833 | United Kingdom and Europe | 12,776 | 39,461 |
| Germany (direct) | 976 | 3,435 | Germany (direct) | 380 | 2,030 |
| Italy (direct) | 590 | 3,406 | Italy (direct) | 25 | 112 |
| Canada | 220 | 997 | Canada | 295 | 1,435 |
| United States | 2,530 | 7,609 | United States | 1,176 | 4,689 |
| India | 1,796 | 16,530 | India | 254 | 987 |
| Ceylon | 114 | 336 | Ceylon | 42 | 63 |
| Straits Settlements | 18 | 41 | Straits Settlements | 57 | 195 |
| Hong Kong | 830 | 3,415 | Hong Kong | 158 | 505 |
| Cape of Good Hope | 198 | 909 | Cape of Good Hope | 1,232 | 6,248 |
| Natal | 86 | 254 | Natal | 616 | 3,390 |
| Mauritius | 33 | 79 | Mauritius | 31 | 166 |
| Fiji | 62 | 271 | Fiji | 769 | 2,103 |
| Total issued | 441,925 | 1,507,967 | Total drawn | 435,768 | 1,541,535 |

The following table covers a period of ten years, and distinguishes orders drawn on New South Wales from those drawn on other countries. It will be seen that the amount of money transmitted to countries outside New South Wales exceeded the money received in every year except 1896, 1897, 1898, 1899 and 1900. In the months of August, September, and October large numbers of shearers are at work in various parts of the state; many of them are but temporary visitors, whose homes are in Victoria and other adjoining states, and during their stay in New South Wales they transmit a portion of their earnings to their families, so that the balance of exchanges, so far as Victoria is concerned, is habitually against New South Wales. There is also a considerable remittance from the state to Great Britain and Ireland, representing aid sent to relatives. On the other hand, bread-winners belonging to New South Wales, but now seeking their fortune elsewhere, make remittances to their families who have remained behind; the principal

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remittances of this kind are received from Western Australia, Queensland, and the Cape of Good Hope:—

| Year. | Issued in New South Wales. | | | Drawn on New South Wales. | | |
|---|---|---|---|---|---|---|
| | Drawn on New South Wales. | Drawn on other Countries. | Total. | Issued and paid in New South Wales. | Issued in other Countries and paid in N.S.W. | Total. |
| | £ | £ | £ | £ | £ | £ |
| 1891 | 1,236,425 | 341,319 | 1,577,744 | 1,233,191 | 285,796 | 1,518,987 |
| 1892 | 1,436,300 | 326,413 | 1,762,713 | 1,436,109 | 303,703 | 1,739,812 |
| 1893 | 1,266,691 | 349,194 | 1,615,885 | 1,269,889 | 286,349 | 1,556,238 |
| 1894 | 1,017,003 | 298,634 | 1,315,637 | 1,016,570 | 241,352 | 1,257,922 |
| 1895 | 985,771 | 283,429 | 1,269,200 | 984,509 | 262,726 | 1,247,235 |
| 1896 | 1,019,556 | 294,039 | 1,313,595 | 1,014,040 | 413,480 | 1,427,520 |
| 1897 | 1,009,030 | 302,820 | 1,311,850 | 1,011,877 | 409,647 | 1,421,524 |
| 1898 | 1,062,350 | 309,377 | 1,371,727 | 1,062,816 | 369,557 | 1,432,373 |
| 1899 | 1,120,804 | 316,123 | 1,436,927 | 1,118,518 | 348,084 | 1,466,602 |
| 1900 | 1,182,554 | 325,413 | 1,507,967 | 1,178,713 | 362,822 | 1,541,535 |

The system of postal notes has naturally caused a reduction of money-order business, but when full allowance is made on this score it will be found that there has been a considerable falling off in the number and amount of transactions since 1892; the same shrinkage is visible in almost every form of mercantile activity.

It is the practice of New South Wales to pay a commission to those countries to which money is transmitted in proportion to the amount of the orders forwarded to each, the rate of commission varying from ½ to 1 per cent., and a similar allowance is made to the state by countries doing a return business. The amounts paid and received by the state on this account during the last ten years were as follow:—

| Year. | Paid. | Received. |
|---|---|---|
| | £ | £ |
| 1891 | 3,171 | 3,464 |
| 1892 | 2,392 | 2,066 |
| 1893 | 2,214 | 1,688 |
| 1894 | 1,890 | 1,445 |
| 1895 | 1,771 | 1,537 |
| 1896 | 1,812 | 2,326 |
| 1897 | 1,890 | 2,290 |
| 1898 | 1,901 | 2,075 |
| 1899 | 1,925 | 1,964 |
| 1900 | 1,980 | 2,031 |

Money orders drawn on places within Australasia are limited to £20, the commission ranging from 6d. to 2s. for local orders, and from 6d. to 4s. for orders on the other states of the Commonwealth of Australia

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and New Zealand. On Canada, Ceylon, India, Germany, Italy, and the United States, the maximum sum for which an order may be obtained is also £20, and the charges 6d. per £ or fraction thereof; while on all other countries the limit is fixed at £10, and the commission at 6d. per £, or fraction thereof. The total amount of commission collected from the public for each of the ten years from 1891 to 1900 is given below, and against this amount is placed the excess of payments over receipts shown in the preceding table:—

| Year. | Commission received. | Net Payments to Other Countries. | Net Collections. |
|---|---|---|---|
| | £ | £ | £ |
| 1891 | 19,198 | *293 | 19,491 |
| 1892 | 19,309 | 326 | 18,983 |
| 1893 | 19,038 | 526 | 18,512 |
| 1894 | 15,828 | 445 | 15,383 |
| 1895 | 14,863 | 234 | 14,629 |
| 1896 | 15,232 | *514 | 15,746 |
| 1897 | 15,133 | *400 | 15,533 |
| 1898 | 15,110 | *174 | 15,284 |
| 1899 | 15,874 | *39 | 15,913 |
| 1900 | 16,296 | *51 | 16,347 |

* Net receipts from other countries.

No allowance has been made for the stamp duty of 1d. charged on all orders issued in New South Wales, and of 2d. imposed on all orders of £2 and upwards, issued elsewhere, paid in the state.

Postal notes were first issued in New South Wales on the 1st October, 1893, under the authority of a special Act of the Legislature. The transactions during 1900 were as follow:—

| Denomination. | Issued in New South Wales. | | |
|---|---|---|---|
| | Drawn on— | | Total. |
| | New South Wales (Inland). | Other States. | |
| | £ s. d. | £ s. d. | £ s. d. |
| 1s. to 4s. 6d. inclusive ..... | 74,444 7 6 | 26,132 9 0 | 483,077 9 0 |
| 5s. to 10s. ,, ..... | 190,580 17 6 | | |
| 10s. 6d. to 15s. ,, ..... | 61,920 15 0 | | |
| 20s. ..... | 129,999 0 0 | | |
| Stamps affixed ..... | 5,142 4 0 | 264 3 11 | 5,406 7 11 |
| Total .....£ | 462,087 4 0 | 26,396 12 11 | 488,483 16 11 |

| Denomination. | Drawn on New South Wales. | | | | |
|---|---|---|---|---|---|
| | Issued in— | | | | Total. |
| | Victoria. | Queensland. | South Australia. | Tasmania. | |
| | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. |
| 1s. to 4s. 6d. inclusive ..... | 1,717 4 0 | 1,555 12 0 | 507 2 6 | 214 13 6 | 3,994 12 0 |
| 5s. to 10s. ,, ..... | 3,438 17 6 | 3,030 10 0 | 722 0 0 | 298 15 0 | 7,490 2 6 |
| 10s. 6d. to 15s. ,, ..... | 1,151 11 0 | 1,055 0 6 | 236 14 0 | 79 8 6 | 2,522 14 0 |
| 20s. ..... | 5,756 0 0 | 4,125 0 0 | 700 0 0 | 437 0 0 | 11,018 0 0 |
| Stamps affixed ..... | 143 13 10 | 132 18 2 | 42 18 3 | 17 0 8 | 336 10 11 |
| Total .....£ | 12,207 6 4 | 9,899 0 8 | 2,208 14 9 | 1,046 17 8 | 25,361 19 5 |

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No commission is paid by one state to another in respect of notes obtained for interstate use, but poundage is charged both by the state in which a note is issued and by that in which it is cashed. The poundage collected in New South Wales during the last quarter of 1893 was £549; during the year 1894, £3,878; during 1895, £6,317; during 1896, £7,839; during 1897, £9,092; during 1898, £10,099; during 1899, £10,966; and during 1900, £11,850. The notes range in value from 1s. to 20s., and the poundage payable thereon varies from 1d. to 4d., according to the following scale:—

| Value of note. | Poundage. | Value of note. | Poundage. |
|---|---|---|---|
| s. d. | d. | s. d. | d. |
| 1 0 | 1 | 5 0 | 2 |
| 1 6 | 1 | 7 6 | 2 |
| 2 0 | 1 | 10 0 | 3 |
| 2 6 | 1 | 15 0 | 3 |
| 3 0 | 1 | 20 0 | 4 |
| 4 0 | 1 | | |

## INSURANCE.

There are no Acts of the New South Wales Parliament regulating the business of fire, life, and other forms of insurance, and local companies engaged in the business are either incorporated under special Acts or under the Companies Act. As the law does not require the publication of returns of the business transacted within the state, it is not customary for companies to disclose this information. The only figures available, therefore, are those relating to their whole business; but the cases are few in which a statement of the whole business of a company throws light on its operations in New South Wales. The inconvenience arising out of the state of the law in regard to insurance has been the subject of complaint by all companies seeking to transact business on sound lines, especially those companies engaged in life insurance. No deposit or other guarantee of genuineness is required, and it is open to any one to start a life office, the business transacted being only limited by the extent to which the credulity of the public may be abused. The evils in regard to fire companies are not so great as for life companies, as the risks taken are almost invariably for short periods; but they are sufficiently great to call for speedy remedy.

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There were seventy-five companies operating in the state during 1900; of these, only ten were local institutions. In addition to those, there were two Underwriters' Associations, which do not, however, take any risks. The number doing each class of business was as follows :—

| Class of Business. | Head Office. | | | | Paid-up Capital. |
|---|---|---|---|---|---|
| | In New South Wales. | In other Commonwealth States and New Zealand. | Outside Australasia. | Total. | |
| | | | | | £ |
| Life only | 5 | 5 | 3 | 13 | ..... |
| Fire only | 3 | ..... | 12 | 15 | 2,125,393 |
| Marine only | ..... | ..... | 19 | 19 | 2,256,057 |
| Fire and Life | ..... | ..... | 10 | 10 | 3,983,323 |
| Fire and Marine | 2 | 4 | 2 | 8 | 652,660 |
| Fire, Life, Marine, and Accident | ..... | ..... | 1 | 1 | 250,000 |
| Fire, Life, and Marine | ..... | ..... | 2 | 2 | 1,137,495 |
| Fire, Marine, and Guarantee | ..... | 2 | ..... | 2 | 125,131 |
| Fire, Life, Marine, and Guarantee | ..... | 1 | ..... | 1 | 125,000 |
| Fire, Marine, Accident, and Guarantee | ..... | 2 | ..... | 2 | 77,500 |
| Accident and Guarantee | ..... | 1 | 1 | 2 | 157,493 |

The life assurance effected by the "Fire and Life" offices forms a very small proportion of their total business.

## Fire Insurance.

The amount of the net risks held in the metropolitan area is obtainable under the 15th clause of the Fire Brigades Act of 1884, which requires each company holding risks within the proclaimed area under the Fire Brigades Board to furnish annually to the Board the amount held at risk on the preceding 31st December within that area, less the sum re-insured with other contributory companies under the Act. This information, however, is for assessment purposes only, the companies being obliged to contribute one-third of the total annual expenditure of the Board, the sum subscribed by each being proportionate to the amount of net risks held within the said area. The total amount contributed by the companies towards the expenses of the Board during

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1900 was £8,500, and the total contributions to be levied for 1901 are £9,400, from 42 companies. The net risk in the metropolitan area held by each company on the 31st December, 1900, was as follows :—

| Name of Company. | Net amount at risk on 31st Dec., 1900. | Name of Company. | Net amount at risk on 31st Dec., 1900. |
|---|---|---|---|
| | £ | | £ |
| Aachen & Munich Fire Insurance Co. | 813,361 | National Fire and Marine Insurance Co. of N.Z. | 1,090,953 |
| Alliance Assurance Company | 2,034,802 | Netherlands India Sea and Fire Insurance Co. | 51,206 |
| Atlas Assurance Company | 658,285 | New Zealand Insurance Co. | 2,366,777 |
| Australian Alliance Assurance Co. | 570,058 | North British and Mercantile Insurance Co. | 957,887 |
| Australian Mutual Fire Insurance Co. | 9,105,677 | North Queensland Insurance Co. (Ltd.) | 1,054,330 |
| Batavia Sea and Fire Insurance Co. | 194,620 | Northern Assurance Company | 785,698 |
| Caledonian Insurance Co. | 530,616 | Norwich Union Fire Insurance Society | 2,753,407 |
| City Mutual Fire Insurance Co. (Ltd.) | 2,285,000 | Palatine Insurance Company (Ltd.) | 516,722 |
| Colonial Mutual Fire Insurance Co. (Ltd.) | 1,275,872 | Patriotic Assurance Co. | 63,649 |
| Commercial Union Assurance Co. (Ltd.) | 6,777,137 | Phœnix Assurance Co. of London | 990,722 |
| Derwent and Tamar Fire and Marine Insurance Co. | 288,222 | Royal Insurance Co. | 2,384,176 |
| Eastern Counties Insurance Co. (Ltd.) | 168,688 | Royal Exchange Assurance Corporation | 353,565 |
| Guardian Fire and Life Assurance Co. (Ltd.) | 851,144 | Scottish Union and National Insurance Co. | 530,616 |
| Imperial Insurance Company of London (Ltd.) | 1,486,429 | South British Fire and Marine Insurance Co. of N.Z. | 1,949,765 |
| Lancashire Insurance Co. | 610,318 | Standard Fire and Marine Insurance Co. of N.Z. | 562,405 |
| Lion Fire Insurance Co. (Ltd.) | 316,632 | State Fire Insurance Co. (Ltd.) | 177,536 |
| Liverpool and London and Globe Insurance Co. | 2,311,370 | Sun Insurance Office of London | 1,092,712 |
| London and Lancashire Fire Insurance Co. | 1,029,000 | United Insurance Co. (Ltd.) | 4,443,944 |
| London Assurance Corporation | 724,870 | United Australian Mutual Fire Insurance Co. (Ltd.) | 445,291 |
| Magdeburg Fire Insurance Co. of Magdeburg | 244,345 | Victoria Insurance Co. (Ltd.) | 1,484,804 |
| Manchester Fire Assurance Co. | 780,113 | | |
| Mercantile Mutual Insurance Co. (Ltd.) | 8,714,938 | Total | £ 66,427,642 |

In cases where insurances cannot be effected in New South Wales there is an arrangement with the Fire Underwriters' Association by which the proportionate amount of the assessment due to the Fire Brigades Board is paid by the insured. No risks of this kind were in force at the close of 1897 or 1898, but at the end of 1896 the insurances on local properties held outside the state amounted to £200,260.

The declared amount of risks held in the metropolitan district since the Fire Brigades Act came into force was as undernoted. The figures refer to the 31st December in each year :—

| | | | |
|---|---|---|---|
| 1884 | £36,691,000 | 1893 | 59,844,701 |
| 1885 | 41,631,582 | 1894 | 59,340,096 |
| 1886 | 46,253,370 | 1895 | 59,720,282 |
| 1887 | 49,209,395 | 1896 | 59,907,953 |
| 1888 | 53,583,000 | 1897 | 60,426,170 |
| 1889 | 57,148,388 | 1898 | 61,861,909 |
| 1890 | 58,207,183 | 1899 | 63,689,331 |
| 1891 | 58,415,945 | 1900 | 66,427,642 |
| 1892 | £61,185,715 | | |

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The number of fires which occurred in the metropolitan district during the year 1900 was 398, which may be classified as follows, according to the damage done :—

| | |
|---|---|
| Slight damage | 357 |
| Serious damage | 13 |
| Total destruction | 28 |

Besides these, there were 85 chimney fires, and 82 false alarms.

Of the premises totally destroyed, 18 were insured and 10 were not insured. Of those in which serious damage was effected, 12 were insured and 1 not insured; while of those coming under the head of slightly damaged, 142 were insured, 165 not insured, and in 50 instances the insurance was unknown; so that it would appear the total number of insurances was 172, as against 176 non-insurances, or 49 per cent. of the whole number for which information is available. The percentage just given must be taken with qualification, as the premises and the property therein contained frequently belong to different persons, and in order to gauge the extent to which insurance is practised it would be necessary to ascertain in how many instances the double insurance was effected. In the returns above given a property is considered insured if the premises be covered and the contents uninsured, and the converse is also the case. It is remarkable how much more liable insured premises are to receive serious damage than those uninsured. This is a matter, however, belonging rather to the ethics of insurance than to statistics.

The following is a statement of the fires which occurred in the metropolitan area during the past ten years :—

| Year. | Slight damage. | Serious damage. | Total destruction. | Total fires. |
|---|---|---|---|---|
| 1891 | 216 | 27 | 19 | 262 |
| 1892 | 270 | 21 | 23 | 314 |
| 1893 | 210 | 23 | 25 | 258 |
| 1894 | 206 | 23 | 41 | 270 |
| 1895 | 299 | 20 | 48 | 367 |
| 1896 | 230 | 27 | 34 | 291 |
| 1897 | 384 | 23 | 42 | 449 |
| 1898 | 372 | 19 | 31 | 422 |
| 1899 | 478 | 15 | 27 | 520 |
| 1900 | 357 | 13 | 28 | 398 |

Under clause 20 of the Fire Brigades Act authority is given to extend its provisions to the country districts; but owing to an ambiguous clause in the statute the fire insurance companies do not consider themselves called upon to contribute anything towards the maintenance of the country Boards, hence many of the municipalities have not taken any steps to come under the Act further than being gazetted. The country districts are served by volunteer fire companies, a return of which will be found in the subjoined table. Full particulars, similar to those given for the metropolitan district, cannot be obtained, and until the Act is made operative outside Sydney and suburbs correct returns will not be available.

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The total number of firemen attached to the brigades in the metropolitan and country districts, and the number of fires attended during 1900, were as stated below :—

| Name of Station. | Number of— Actual fires attended. | Men in the Brigades. | Name of Station. | Number of— Actual fires attended. | Men in the Brigades. |
|---|---|---|---|---|---|
| **Metropolitan Fire Brigade—** | | | | | |
| No. 1, Head-quarters | 328 | 23 | **Country Companies—*ctd.*** | | |
| No. 2, George-st. West | | 10 | Corowa | ... | 30 |
| No. 3, George-st. North | | 10 | Deniliquin | 4 | 10 |
| No. 4, Darlinghurst | | 6 | Dubbo | 8 | 17 |
| No. 5, Newtown | | 7 | Forbes | 4 | 21 |
| No. 6, North Sydney | | 6 | Glen Innes | 1 | 16 |
| No. 7, Marrickville | | 7 | Goulburn (2 stations) | 4 | 22 |
| No. 8, Alexandria | | 5 | Grafton (2 stations) | ... | 39 |
| No. 9, Woollahra | | 5 | Hamilton | 1 | 12 |
| No. 10, Redfern | | 7 | Hay | 3 | 12 |
| No. 11, Paddington | | 6 | Islington | 3 | 12 |
| Auxiliary Firemen | | 12 | Junee | 2 | 15 |
| **Metropolitan Volunteer Companies—** | | | Kempsey | 3 | 25 |
| Ashfield | 19 | 14 | Kiama | ... | 15 |
| Balmain | 18 | 17 | Lambton | 4 | 14 |
| Burwood | 14 | 15 | Lambton, New | 2 | 16 |
| Drummoyne | 4 | 13 | Lismore | 5 | 16 |
| Glebe | 21 | 14 | Lithgow | 1 | 25 |
| Granville | 4 | 17 | Maitland, East | 2 | 18 |
| Hurstville | 10 | 13 | Maitland, West | 8 | 22 |
| Kogarah | 8 | 12 | Merewether | 3 | 12 |
| Leichhardt | 27 | 11 | Minmi | 2 | 24 |
| Liverpool | 5 | 20 | Moama | ... | 8 |
| Manly | 4 | 17 | Morpeth | ... | 12 |
| North Botany | 8 | 12 | Moss Vale | ... | 12 |
| Parramatta | 3 | 20 | Mudgee | 1 | 22 |
| Richmond | 1 | 15 | Narrandera | 2 | 15 |
| Rockdale | 10 | 14 | Newcastle, City | 12 | 20 |
| Rookwood | 7 | 15 | Newcastle, Central | 10 | 20 |
| Waterloo | 13 | 16 | Newcastle, West | 29 | 25 |
| Waverley | 29 | 15 | Nowra | 4 | 16 |
| Willoughby | 6 | 17 | Orange | 2 | 13 |
| **Country Companies—** | | | Parkes | 6 | 15 |
| Adamstown | 2 | 13 | Platteburg & Wallsend | 1 | 25 |
| Albury | 9 | 24 | Queanbeyan | ... | 25 |
| Armidale | ... | 12 | Singleton | 3 | 30 |
| Balranald | ... | 12 | Stockton | 4 | 30 |
| Bathurst | 8 | 15 | Tamworth | 5 | 14 |
| Bourke | 6 | 10 | Taree | 1 | 35 |
| Bowral | 4 | 20 | Temora | ... | ... |
| Braidwood | ... | 14 | Tenterfield | 1 | 10 |
| Broken Hill | 54 | 23 | Tighe's Hill | 3 | 18 |
| Camden | ... | 14 | Wagga Wagga | 17 | 20 |
| Carrington | 6 | 23 | Waratah and Mayfield | 2 | 15 |
| Condobolin | 5 | 13 | Wentworth | 2 | 20 |
| Coonamble | ... | 14 | Wickham | 4 | 21 |
| Cootamundra | 3 | 13 | Wollongong | 3 | 26 |

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## Life Assurance.

Life assurance, in common with other forms of financial business, received a severe blow during the crisis of 1893, from the effects of which it is only now recovering. Prior to the year named all forms of life business showed great expansion; during 1894 and 1895 this gave place to a struggle to maintain the position already acquired; but since 1896 a decided improvement in business has been experienced. The falling off after the financial crisis was not to be wondered at. The sudden stoppage of credit by the locking-up of deposits in banks drove many of the policy-holders to borrow on the security of their policies, and borrowing was too frequently the first step towards the surrender of the policy on the security of which the advance was made. The business of the last half of 1893 and of the whole of 1894 was in every respect abnormal; for it will be seen from the comparative tables given below that, taking the whole of the companies together, the surrenders and forfeitures actually exceeded the new business obtained. In dealing with the contraction in insurance business, it should be borne in mind that a good many of the old policies are now falling in, and at the same time the field from which new policies are obtained is sensibly narrowing, as the Australian states have been thoroughly exploited for many years, while the insurable element of four and a half million people cannot be said to be large. Of late years, however, sundry new forms of insurance have been adopted, and the companies hope in this way more readily to attract the public now that a revival seems to have set in.

Special laws regulating the business of life assurance are in existence in every state except New South Wales; but they are by no means uniform, no two states having precisely the same law. During 1862 an Act was passed in New South Wales to encourage and protect life insurance, but its provisions in no way apply to the regulation of business.

On account of the absence of official returns, the particulars relating to the institutions are obtained from the reports published and circulated by the companies themselves; but, unfortunately, such statements do not allow of the business transacted locally being separated from that done elsewhere. During 1900 there were fourteen institutions operating in the state. Of these, five were local, five had their head offices in Victoria, one in Queensland, and three in the United States. The volume of the local business of those last mentioned proportionately to the total is, however, so small that returns relating to the American offices have been omitted from the following comparisons, except where their local business can be stated. Early in 1898 two of the Victorian Institutions amalgamated. Fourteen companies, uniting life with other classes of insurance, have local branches or agencies, but with one exception their transactions in life risks in the state are unimportant.

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Of the eleven Australasian institutions, the Australian Mutual Provident Society and the Mutual Life Association of Australasia were incorporated under special Acts; and the City Mutual Life Assurance Society (Limited), the Citizens' Life Assurance Company (Limited), and the Standard Life Association (Limited) were registered under the Companies Act, the first-named in 1879, the Citizens' Life Assurance Company (Limited) in 1886, and the Standard Life Association (Limited) in 1899. Of the remaining institutions five were incorporated in Victoria and one in Queensland.

The results of the latest published actuarial investigations of the various societies were as follow:—

| Institution. | Year when established. | Basis of Valuation. | Date. | Net or present Liability. | Total Assets. |
|---|---|---|---|---|---|
| | | Per cent. | | £ | £ |
| Head Office in New South Wales— | | | | | |
| Australian Mutual Provident Society | 1849 | 3½ (*a*) | 31 Dec., 1900 | 16,379,150 | 17,448,878 |
| Mutual Life Association of Australasia. | 1869 | 4 (*q*) | 31 Dec., 1899 | 1,234,990 | 1,372,331 |
| City Mutual Life Assurance Society (Limited). | 1879 | 4 (*t*) | 31 Dec., 1900 | 199,898 | 211,408 |
| Citizens' Life Assurance Company (Limited). | 1886 | 3½ (*a*) | 31 Dec., 1900 | 353,605 | 387,688 |
| The Standard Life Association (Ltd.) | 1899 | .. (*q*) | ..... | § | 15,630 |
| Head Office in Victoria— | | | | | |
| Australian Alliance Assurance Company. | 1862 | 3½ (*t*) | 31 Dec., 1897 | 273,827 | ‡552,503 |
| National Mutual Life Association of Australasia (Limited). | 1869 | 4 (*t*) | 30 Sept., 1898 | 2,545,718 | 2,835,357 |
| Australian Widows' Fund Life Assurance Society (Limited). | 1871 | 3½ (*q*) | 31 Oct., 1899 | 1,311,808 | 1,379,275 |
| Colonial Mutual Life Assurance Society (Limited). | 1874 | 3½ 4 (*q*) | 31 Dec., 1899 | 2,071,579 | 2,391,882 |
| *Australasian Temperance and General Mutual Life Assurance Society (Limited). | 1876 | 3½ (*q*) | 30 Sept., 1900 | *233,142 | ‡260,751 |
| Head Office in Queensland - | | | | | |
| Australian Metropolitan Life Assurance Company (Limited). | 1895 | .. (*q*) | § | § | 22,976 |

(*a*) Annual. (*t*) Triennial. (*q*) Quinquennial.
* Ordinary Branch only. † Includes Fire, Marine, and Guarantee Branches. ‡ Includes Industrial Branch, the assets of which cannot be distinguished. § No information available.

The net or present liability represents the present value of the sums assured in respect of whole life and endowment assurance, reversionary bonuses, endowments, and annuities in force at date of valuations, less the present value of the future pure premiums thereon.

Seven of the companies are mutual, and the remainder are what is termed in insurance parlance "mixed"—that is, proprietary companies dividing profits with the policy-holders; while three of the institutions

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also transact industrial business, and one company, the Australian Alliance Assurance Company, conducts fire and marine insurance. Most of the offices have representatives in all the Commonwealth States and New Zealand, and three institutions have extended their operations to London, and one also to South Africa.

The following table gives the policies in force and the sums assured in each society at the close of 1900; the item "Sums assured" means the sums payable, exclusive of reversionary bonuses, at death, or no attaining a certain age or at death before that age:—

| Institution. | Policies in force, exclusive of Annuities. | Sums Assured, exclusive of Bonuses and Annuities. | Bonus Additions. | Total, inclusive of Bonuses. | Annual Premium Income. |
|---|---|---|---|---|---|
| | No. | £ | £ | £ | £ |
| Australian Mutual Provident Society ..... | 160,884 | 47,706,765 | 9,235,203 | 56,941,968 | 1,555,569 |
| Mutual Life Association of Australasia .... | 19,590 | 5,179,578 | 419,742 | 5,599,320 | 173,554 |
| City Mutual Life Assurance Society (Ltd.).. | 9,764 | 1,274,166 | 36,545 | 1,310,711 | 48,617 |
| Citizens' Life Assurance Company (Ltd) .... | 26,251 | 3,652,684 | 114,598 | 3,767,282 | 142,843 |
| The Standard Life Association (Ltd.) ..... | 915 | 98,997 | Nil. | 98,997 | 4,963 |
| Australian Alliance Assurance Company .. | 1,232 | 431,892 | 37,690 | 469,582 | 13,762 |
| National Mutual Life Association of Australasia (Ltd.) ..... ..... | 48,098 | 10,948,504 | 794,158 | 11,742,662 | 360,362 |
| Australian Widows' Fund Life Assurance Society (Ltd.) ..... | 22,186 | 4,742,674 | 177,480 | 4,920,154 | 174,738 |
| Colonial Mutual Life Assurance Society (Ltd.) | 33,702 | 10,418,388 | 360,400 | 10,778,788 | 334,718 |
| †Australasian Temperance and General Mutual Life Assurance Society (Ltd.) .. | 8,703 | 1,362,635 | 14,206 | 1,376,968 | 45,855 |
| ‖Australian Metropolitan Life Assurance Company (Ltd.) ..... | 543 | 13,571 | 70 | 13,641 | 774 |
| *Equitable Life Assurance Society of the United States‡ ..... | 8,985 | 4,093,452 | ¶ | 4,093,452 | § |
| Mutual Life Assurance Company of New York‡ ..... ..... | 3,401 | 1,747,814 | § | 1,747,814 | 69,165 |
| New York Life Insurance Company‡ ..... | 5,231 | 2,212,033 | ¶ | 2,212,033 | 98,167 |

* December, 1899. † Ordinary Branch only. ‡ Australasian business only.
§ Not available. ¶ Included in previous column.
‖ Business in force in New South Wales only.

The following table shows the business in force at the close of the year immediately preceding that of the crisis, the year following the crisis, and at the close of 1900. As was to be expected, the volume of assurances decreased in nearly every society from 1892 to 1894, and the results as disclosed by the figures afford another striking instance of the widespread distress following the events of 1893. During 1898, however, most of the societies exhibited a considerable improvement in their business. The Mutual Assurance Society of Victoria (Limited)

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was amalgamated with the National Mutual Life Association of Australasia (Limited) from 1st January, 1897.

| Institution. | Amount Assured, excluding Bonuses and Annuities. | | |
|---|---|---|---|
| | 1892. | 1894. | 1900. |
| | £ | £ | £ |
| Australian Mutual Provident Society ..... | 38,888,283 | 39,510,130 | 47,706,765 |
| Mutual Life Association of Australasia..... | 4,430,669 | 4,166,359 | 5,179,578 |
| City Mutual Life Assurance Society (Ltd.). | 719,999 | 776,946 | 1,274,166 |
| Citizens' Life Assurance Company (Ltd.)... | 429,084 | 845,984 | 3,652,684 |
| The Standard Life Association (Ltd.) ..... | ..... | ..... | 98,997 |
| Australian Alliance Assurance Company ... | 769,987 | 645,463 | 431,892 |
| National Mutual Life Association of Victoria (Ltd.). ..... | 6,479,001 | 6,338,659 | 10,948,504 |
| Mutual Assurance Society of Victoria (Ltd.) | 3,665,517 | 3,332,312 | ..... |
| Australian Widows' Fund Life Assurance Society (Ltd.) ..... | 4,939,075 | 4,555,968 | 4,742,674 |
| Colonial Mutual Life Assurance Society (Ltd.). ..... | 10,827,028 | 10,583,271 | 10,418,388 |
| Australasian Temperance and General Mutual Life Assurance Society (Ltd.)... | 827,566 | 812,370 | 1,362,635 |
| Australian Metropolitan Life Assurance Company (Ltd.) ..... | ..... | ..... | 13,571 |
| *Equitable Life Assurance Society of the United States..... ..... | 4,335,522 | 4,211,667 | †4,098,452 |
| *Mutual Life Assurance Company of New York..... ..... ..... | 1,107,258 | 1,253,462 | 1,747,814 |
| *New York Life Insurance Company ..... | 1,883,765 | 1,665,068 | 2,212,033 |

* Australasian business only. † Year 1899.

The following table gives a summary of the new business completed during the past ten years by the eleven Australian offices represented in New South Wales. The assurance and endowment policies only are dealt with, as the annuity transactions are unimportant:—

| Year. | Policies. | Amount Assured. | | Annual Premiums. | | | |
|---|---|---|---|---|---|---|---|
| | | Total. | Per Policy. | Total. | Per £100 of Assurance. | | |
| | No. | £ | £ | £ | £ | s. | d. |
| 1891 | 28,032 | 8,435,673 | 301 | 273,061 | 3 | 4 | 9 |
| 1892 | 27,965 | 7,977,154 | 285 | 262,647 | 3 | 5 | 10 |
| 1893 | 24,488 | 6,019,408 | 246 | 197,066 | 3 | 5 | 6 |
| 1894 | 25,721 | 6,062,494 | 236 | 202,315 | 3 | 6 | 9 |
| 1895 | 27,098 | 6,384,455 | 236 | 215,013 | 3 | 7 | 4 |
| 1896 | 29,611 | 6,895,567 | 233 | 230,896 | 3 | 7 | 0 |
| 1897 | 30,761 | 6,974,149 | 227 | 240,962 | 3 | 9 | 1 |
| 1898 | 35,675 | 8,479,842 | 238 | 289,686 | 3 | 8 | 4 |
| 1899 | 39,434 | 9,039,315 | 229 | 294,476 | 3 | 5 | 2 |
| 1900 | 42,855 | 9,237,454 | 216 | 321,172 | 3 | 9 | 6 |

It will be noticed that the average sum assured was £216 in 1900, compared with £301 in 1891, while the annual premium for £100 was considerably larger than for any of the other years shown. It would seem from these two facts that the depression of the past six years has had the effect of curtailing the insuring powers of the people; while

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the proportionate increase in the premium is accounted for by the growth of the endowment assurance business. At the present time about 55 per cent. of the total assurance business is of this description, and it is evident that the combination of investment with insurance thus afforded has obtained a strong hold on the assuring public. The average sum assured per endowment policy is below that of the whole life policies, while the average annual premium is higher, as many of the policies are for short terms. The new assurances effected during the year, less the void business or discontinuances, represent the annual additions to the sums assured; this, or its opposite, is shown in the following comparison for the ten years ended 1900:—

| Year. | New Assurances. | Void Business. | Net yearly increase to sums assured. |
|---|---|---|---|
| | £ | £ | £ |
| 1891 | 8,435,673 | 5,096,730 | 3,338,943 |
| 1892 | 7,977,154 | 6,099,772 | 1,877,382 |
| 1893 | 6,019,408 | 6,218,360 | *198,952 |
| 1894 | 6,062,494 | 6,305,437 | *242,943 |
| 1895 | 6,384,455 | 5,796,308 | 588,147 |
| 1896 | 6,895,567 | 5,501,385 | 1,394,182 |
| 1897 | 6,974,149 | 5,344,764 | 1,629,385 |
| 1898 | 8,479,842 | 5,328,957 | 3,150,885 |
| 1899 | 9,039,315 | 5,053,752 | 3,985,563 |
| 1900 | 9,237,454 | 5,673,224 | 3,564,230 |

* Decrease.

The receipts of the societies are chiefly represented by the collections from premiums on policies and the interest arising from investments of the accumulated funds; while payments on account of policies matured and surrendered, cash bonuses, and expenses of management chiefly comprise the disbursements. The receipts and disbursements of each society during 1900 were as follow:—

| Institution. | Receipts. | Expenditure. | Excess Receipts (Addition to Funds). |
|---|---|---|---|
| | £ | £ | £ |
| Australian Mutual Provident Society | 2,364,216 | 1,409,112 | 955,104 |
| Mutual Life Association of Australasia | 244,076 | 165,827 | 78,249 |
| City Mutual Life Assurance Society (Ltd.) | 60,039 | 41,741 | 18,298 |
| *Citizens' Life Assurance Company (Ltd.) | 145,531 | 59,143 | 86,388 |
| †The Standard Life Association (Ltd.) | 24,593 | 22,786 | 1,807 |
| Australian Alliance Assurance Company | 24,349 | 37,330 | ‡12,981 |
| National Mutual Life Association of Australasia (Ltd.) | 524,121 | 382,753 | 141,368 |
| Australian Widows' Fund Life Assurance Society (Ltd.) | 237,019 | 177,495 | 59,524 |
| Colonial Mutual Life Assurance Society (Ltd.) | 406,428 | 299,704 | 106,724 |
| *Australasian Temperance and General Mutual Life Assurance Society (Ltd.) | 53,572 | 45,170 | 8,402 |
| Australian Metropolitan Life Assurance Company (Ltd.) | 9,432 | 7,242 | 2,190 |
| Total £ | 4,093,376 | 2,648,303 | 1,445,073 |

* Ordinary branch only. † Includes the Industrial Branch. ‡ Decrease.

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The aggregate receipts and disbursements, under the accepted heads, for the eleven institutions were as follow :—

| Receipts. | | Expenditure. | |
|---|---|---|---|
| | £ | | £ |
| Premiums— | | Claims | 1,510,801 |
| New | 327,405 | Surrenders | 446,752 |
| Renewal | 2,498,948 | Annuities | 41,034 |
| Consideration for Annuities | 87,500 | Cash Bonuses and Dividends | 54,082 |
| Interest | 1,161,696 | Expenses | 565,380 |
| Other Receipts (Rents, etc.) | 17,827 | Amount written off to Depreciation, Reserves, etc. | 30,254 |
| Total £ | 4,093,376 | Total £ | 2,648,303 |

In 1894, for the first time for many years, the amount of interest earned and rents received was insufficient to meet the demands under the head of claims, and similar conditions prevailed during the following six years; the excess to be made good from the other sources, however, was small.

The yearly additions to the accumulated funds are largely dependent on the volume of assurances current, and any changes in the one are reflected in the figures of the other; it is, therefore, not surprising that coincident with the shrinkages in the volume of assurances in force up to the year 1894, the amount added to the accumulated funds had correspondingly fallen off. During the years 1895 to 1900, however, the additions to the funds have shown a considerable increase. The amount of funds and the interest received thereon, for the ten years ended with 1900, were as follow :—

| Year. | Accumulated Funds. | | Interest. | |
|---|---|---|---|---|
| | Additions during year. | Total Amount. | Amount received. | Average Rate realised. |
| | £ | £ | £ | per cent. |
| 1891 | 1,380,553 | 15,821,425 | 902,774 | 5·97 |
| 1892 | 1,360,100 | 17,181,525 | 967,678 | 5·86 |
| 1893 | 1,147,143 | 18,328,668 | 991,369 | 5·58 |
| 1894 | 912,276 | 19,240,944 | 1,041,529 | 5·54 |
| 1895 | 1,057,942 | 20,298,886 | 1,037,477 | 5·25 |
| 1896 | 996,045 | 21,294,931 | 1,038,993 | 5·00 |
| 1897 | 1,191,032 | 22,485,963 | 1,047,560 | 4·78 |
| 1898 | 1,168,746 | 23,654,709 | 1,093,621 | 4·74 |
| 1899 | 1,476,215 | 25,130,924 | 1,119,525 | 4·59 |
| 1900 | 1,445,073 | 26,491,025 | 1,161,696 | 4·51 |

The figures for 1899 include the business of the Standard Life Association (Limited) to 30th June, 1900. The total amount of accumulated funds for 1900 is exclusive of £99,332, the Investment Fluctuation Fund of the Colonial Mutual Life Assurance Society (Limited) which sum was included in previous years. It, however, includes £14,360, the amount of the funds of the Australian Metropolitan Life Assurance Company (Ltd.) at the 31st of August, 1899, which was not included in the total given for the previous year.



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## Assets and Liabilities of Assurance Companies.

The societies establish annually a statement of their liabilities and assets, with the object of showing the distribution of the accumulated funds and the amount placed to commercial reserve. The returns are, however, in no way connected with the valuation balance-sheets prepared at the date of the actuarial investigation. The assets and liabilities of each institution, for the financial year 1900, are shown in the subjoined table:—

| Institution. | Assets. | | | Liabilities. | | |
|---|---|---|---|---|---|---|
| | Loans on Mortgages and Policies. | Government and Municipal Securities, Freehold Property, Cash on Deposit, etc., etc. | Total. | Assurance Endowment and Annuity Funds. | Reserve Funds, etc. | Total. |
| | £ | £ | £ | £ | £ | £ |
| Australian Mutual Provident Society | 12,926,977 | 4,521,901 | 17,448,878 | 17,029,845 | 419,033 | 17,448,878 |
| Mutual Life Association of Australasia | 904,574 | 540,918 | 1,445,492 | 1,437,612 | 7,880 | 1,445,492 |
| City Mutual Life Assurance Society (Ltd.) | 126,371 | 85,037 | 211,408 | 209,664 | 1,744 | 211,408 |
| *Citizens' Life Assurance Company (Ltd.) | 167,983 | 219,705 | 387,688 | 383,947 | 3,741 | 387,688 |
| †Standard Life Association (Ltd.) | ..... | 15,630 | 15,630 | 2,786 | 12,844 | 15,630 |
| ‡Australian Alliance Assurance Company | 253,146 | 250,793 | 503,939 | 260,173 | 243,766 | 503,939 |
| National Mutual Life Association of Australasia (Ltd.) | 2,204,631 | 1,028,328 | 3,232,959 | 3,092,870 | 140,089 | 3,232,959 |
| Australian Widows' Fund Life Assurance Society (Ltd.) | 1,017,513 | 425,715 | 1,443,228 | 1,428,294 | 14,934 | 1,443,228 |
| Colonial Mutual Life Assurance Society (Ltd.) | 1,263,443 | 1,234,831 | 2,498,274 | 2,392,657 | 105,617 | 2,498,274 |
| Australasian Temperance and General Mutual Life Assurance Society (Ltd.) | ‡ 145,904 | ‡ 114,847 | ‡ 260,751 | * 236,627 | ‡ 24,124 | ‡ 260,751 |
| Australian Metropolitan Life Assurance Company (Ltd.) | 3,037 | 19,939 | 22,976 | 16,550 | 6,426 | 22,976 |
| Total | 19,013,579 | 8,457,644 | 27,471,223 | 26,491,025 | 980,198 | 27,471,223 |

* Ordinary Branch only. † Includes Industrial Branch. ‡ Includes Fire, Marine, and Guarantee Branches, which cannot be separated.

About 50 per cent. of the total assets are represented by loans on mortgage, and another 20 per cent. is lent on the policies of the societies. In former years insurance companies were almost confined to these forms of investment, but recently more attention has been given to Government securities, loans to municipalities, and investments in shares; while considerable sums are deposited with the banks, or sunk in freehold and leasehold property. The remaining items require no special comment, except loans on personal security. Investments of this character are unusual in Australasia, the amount invested aggregating only £64,799. In some of the states the companies are obliged by law to deposit certain sums with the Treasury as a guarantee of good faith, and the amount so lodged is included either under the head of Government securities or of deposits.

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## Expenses of Management of Assurance Companies.

The ratio of expenses of management to premium income and gross receipts must necessarily vary according to the age of the society and the proportion of new business transacted. The figures are given for what they are worth. That a more exact comparison cannot be made is the fault of certain companies which fail to make a complete disclosure of their affairs, and do not distribute their expenses of management so that the cost of new business may be distinguished from that of old business; the reports of other companies are unequalled in any part of the world :—

| Institution. | Expenses of Management. | | |
|---|---|---|---|
| | Amount. | Proportion to— | |
| | | Premium Income. | Gross Receipts. |
| | £ | per cent. | per cent. |
| Australian Mutual Provident Society | 214,681 | 14·00 | 9·08 |
| Mutual Life Association of Australasia | 51,704 | 29·85 | 21·18 |
| City Mutual Life Assurance Society (Ltd.) | 16,265 | 32·76 | 27·09 |
| Citizens' Life Assurance Company (Ltd.) | 17,891 | 13·74 | 12·29 |
| The Standard Life Association (Ltd.) | 21,307 | 87·23 | 86·64 |
| Australian Alliance Assurance Company | 3,762 | 25·24 | 15·45 |
| National Mutual Life Association of Australasia (Ltd.) | 86,916 | 23·48 | 16·58 |
| Australian Widows' Fund Life Assurance Society (Ltd.) | 51,478 | 30·80 | 21·71 |
| Colonial Mutual Life Assurance Society (Ltd.) | 77,084 | 24·77 | 18·51 |
| Australasian Temperance and General Mutual Life Assurance Society (Ltd.) | 19,302 | 44·31 | 36·03 |
| Australian Metropolitan Life Assurance Co. (Ltd.) | 4,995 | 60·87 | 52·96 |

## Assurance in various Countries.

The average amount assured per policy for each state, and for New Zealand, the United Kingdom, Canada, and the United States, is given in the following table. The figures in some instances are probably somewhat overstated as all the companies do not show complete returns of the business in each state, but the results may be taken as a fair estimate for each province. The Australasian business of the American institutions excluded from the previous returns has been included for the purpose of establishing the Australian averages shown herewith :—

| Country. | Average sum assured per Policy. | Average Premium per £100 of Assurance. |
|---|---|---|
| | £ | £ s. d. |
| Commonwealth of Australia | 269 | 3 4 2 |
| New South Wales | 316 | 3 1 10 |
| Victoria | 253 | 3 3 11 |
| Queensland | 299 | 2 19 1 |
| South Australia | 243 | 3 5 8 |
| Western Australia | 324 | 2 19 2 |
| Tasmania | 268 | 3 4 0 |
| New Zealand | 258 | 3 0 10 |
| United Kingdom | 348 | ..... |
| United States | 465 | ..... |
| Canada | 333 | ..... |

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The average amount of assurance per head of population was, in Australasia, £21; in Canada, £16; in the United Kingdom, £15; and in the United States, £19; while the average number of policies per thousand of population was, in Australasia, 77; in Canada, 47; in the United Kingdom, 43; and in the United States, 40.

The average policy is scarcely a fair measure of thrift. In these states mutual assurance is the rule, and members of the various societies have acquired large bonus additions. The average existing policy, including reversionary bonus, of the Australasian companies during 1900, was £301, as compared with the £269 shown in the comparative table.

It would seem that the practice of assuring life is much more prevalent in Australasia than in any of the other countries instanced; and although the average sum assured by each policy is less, the number of policies is so much greater, as compared with the population, that the amount assured per inhabitant is considerably higher.

## Bankruptcy.

The present Bankruptcy Act came into force in January, 1888, superseding a system which made insolvency a very easy matter. It was expected that the new Act would give a healthier tone to trade, and decrease the number of cases in which debtors would have recourse to law to be relieved of their engagements. The result anticipated, however, was not immediately realised, and bankruptcies were just as numerous as formerly, but since the year 1893 a decided improvement has taken place. In the thirteen years during which the present law has been in force, 14,464 petitions in bankruptcy have been received; of these, 12,419 were filed by the bankrupts themselves, and 2,045 on behalf of creditors. The petitions were not granted or were withdrawn in 531 cases, so that the total sequestrations actually made numbered 13,933. The following is a statement of the bankruptcy petitions for each of the thirteen years during which the present Bankruptcy Act has been in force:—

| Year. | Petitions in Bankruptcy. | | | Petitions withdrawn, refused, etc. | Sequestration Orders granted. |
|---|---|---|---|---|---|
| | Voluntary. | Compulsory. | Total. | | |
| | No. | No. | No. | No. | No. |
| 1888 | 735 | 116 | 851 | 28 | 823 |
| 1889 | 935 | 166 | 1,101 | 39 | 1,062 |
| 1890 | 1,079 | 164 | 1,243 | 50 | 1,193 |
| 1891 | 1,016 | 222 | 1,238 | 49 | 1,189 |
| 1892 | 1,267 | 239 | 1,506 | 43 | 1,463 |
| 1893 | 1,535 | 209 | 1,744 | 59 | 1,685 |
| 1894 | 1,364 | 148 | 1,512 | 47 | 1,465 |
| 1895 | 1,080 | 200 | 1,280 | 61 | 1,219 |
| 1896 | 937 | 149 | 1,086 | 46 | 1,040 |
| 1897 | 755 | 90 | 845 | 19 | 826 |
| 1898 | 677 | 108 | 785 | 31 | 754 |
| 1899 | 521 | 112 | 633 | 21 | 612 |
| 1900 | 518 | 122 | 640 | 38 | 602 |
| Total... | 12,419 | 2,045 | 14,464 | 531 | 13,933 |

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It will be observed that a regular decrease in the sequestrations has taken place since the financial crisis of 1893, the total for 1900 being considerably less than one-half of that in the year first-mentioned, and even 221 less than the bankruptcies in the fairly prosperous year 1888. This decline confirms the evidence of the growing prosperity of the state, already indicated by the increase in the savings of the people, and also by the life assurance returns.

A bankrupt may obtain his discharge in one of three ways—by the sequestration order made against him being annulled, by the release of his estate, or by a certificate of discharge being granted to him. The bulk of the certificates issued are obtained under the last-mentioned head; only three sequestration orders have been annulled, and 178 estates have been released since the existing Act has been in force, while 1,504 certificates of discharge have been granted. The number of certificates issued from 1st January, 1888, to 31st December, 1900, was as follows:—

| Year. | Sequestration Orders annulled. | Estates released. | Certificates of Discharge granted. | Compositions accepted. | Total Certificates issued. |
|---|---|---|---|---|---|
| | No. | No. | No. | No. | No. |
| 1888 | ..... | 1 | 26 | 5 | 32 |
| 1889 | ..... | 14 | 114 | 7 | 135 |
| 1890 | ..... | 4 | 95 | 4 | 103 |
| 1891 | ..... | 3 | 309 | ..... | 312 |
| 1892 | 1 | 19 | 185 | ..... | 205 |
| 1893 | ..... | 6 | 152 | 2 | 160 |
| 1894 | ..... | ..... | 147 | ..... | 147 |
| 1895 | ..... | 12 | 142 | ..... | 154 |
| 1896 | 1 | 21 | 95 | 1 | 118 |
| 1897 | 1 | 25 | 66 | 1 | 93 |
| 1898 | ..... | 23 | 58 | .. ..... | 81 |
| 1899 | 2 | 23 | 62 | 3 | 90 |
| 1900 | 3 | 27 | 53 | 1 | 84 |
| Total ..... | 8 | 178 | 1,504 | 24 | 1,714 |

The number of estates in respect of which certificates of discharge or release were granted was 1,714, or 12 per cent. of the total sequestrations. In some few cases application is made for a certificate and refused; allowing for these, it would appear that out of 100 bankrupts, 88 are unable or too indifferent to take the necessary steps to free themselves from bankruptcy. Under the law, the property of an uncertificated bankrupt, even if acquired subsequently to sequestration, is liable to

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seizure on behalf of unsatisfied creditors; and as applications for certificates of discharge are the exception rather than the rule, it would appear that the great majority of bankrupts neither attain nor hope to attain a position in which they are likely to be disturbed by unsatisfied creditors. Before a certificate is granted, all fees owing to the Court and official assignees must be paid, and it is certain that not a few who elect to remain uncertificated do so in order to avoid payment of these fees. The number of sequestrations during the thirteen years the Act has been in force was 13,933, and of these 12,219 remain uncertificated. During 1900 the total number of sequestrations was 602; the liabilities, according to bankrupts' schedules, were £743,887; and the assets amounted to £328,053. The qualification "according to bankrupts' schedules" is necessary, as the returns of assets and liabilities established after investigation by the Court differ widely from those furnished by bankrupts:—

| Year. | Sequestrations. | Nominal— | | |
|---|---|---|---|---|
| | | Liabilities. | Assets. | Deficiency. |
| | No. | £ | £ | £ |
| 1888 | 823 | 659,307 | 459,677 | 199,630 |
| 1889 | 1,062 | 794,603 | 396,723 | 397,880 |
| 1890 | 1,193 | 1,203,685 | 540,726 | 662,959 |
| 1891 | 1,189 | 989,778 | 454,211 | 535,567 |
| 1892 | 1,463 | 2,035,316 | 793,045 | 1,242,271 |
| 1893 | 1,685 | 1,527,985 | 905,763 | 622,222 |
| 1894 | 1,465 | 1,852,235 | 995,935 | 856,300 |
| 1895 | 1,219 | 1,142,637 | 747,053 | 395,584 |
| 1896 | 1,040 | 627,314 | 409,928 | 217,386 |
| 1897 | 826 | 610,111 | 347,469 | 262,642 |
| 1898 | 754 | 605,563 | 263,500 | 342,063 |
| 1899 | 612 | 321,913 | 175,345 | 146,568 |
| 1900 | 602 | 743,887 | 328,053 | 415,834 |
| Total ..... | 13,933 | 13,114,334 | 6,817,428 | 6,296,906 |

The dividend rates paid on the amount of proved liabilities of estates which have been wound up are not given, as to establish such would involve an investigation of the transactions in each estate; and even this operation would not result in complete returns being established, as there are many estates which remain unsettled over a long period of years. There are three official assignees to assist the Court in winding up the estates. Each official pays all money received

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by him to the Registrar in Bankruptcy, who places the amount to the credit of the Bankruptcy Estates Account, from which all charges, fees, and dividends are met. The official assignees are also required to furnish quarterly statements of the transactions in each estate during that period, and the figures given in the two statements following were obtained from these returns. The charges under each head were :—

| Year. | Peremptory Charges. | | Legal Costs. | Paid into Consolidated Revenue. | | Commission to Official Assignees. | Total Charges. |
|---|---|---|---|---|---|---|---|
| | Auction. | Rent, Valuation, Labour, etc. | | Court Fees. | Percentage. | | |
| | £ | £ | £ | £ | £ | £ | £ |
| 1891 | 3,019 | 13,439 | 6,202 | 1,508 | 726 | 5,386 | 35,280 |
| 1892 | 3,692 | 10,350 | 7,192 | 1,582 | 891 | 5,581 | 29,288 |
| 1893 | 3,952 | 13,743 | 7,133 | 1,473 | 652 | 5,691 | 32,644 |
| 1894 | 3,571 | 18,308 | 7,139 | 1,528 | 1,143 | 8,610 | 40,299 |
| 1895 | 2,780 | 16,752 | 8,519 | 1,414 | 718 | 6,182 | 36,365 |
| 1896 | 1,955 | 22,488 | 6,113 | 1,321 | 551 | 4,665 | 37,093 |
| 1897 | 1,617 | 13,929 | 8,100 | 1,293 | 691 | 5,129 | 30,759 |
| 1898 | 1,519 | 7,085 | 4,438 | 1,246 | 348 | 3,194 | 17,830 |
| 1899 | 1,364 | 6,435 | 4,062 | 1,062 | 267 | 3,031 | 16,221 |
| 1900 | 913 | 6,530 | 2,996 | 982 | 331 | 3,900 | 15,652 |

The official assignees receive 2½ per cent. on the amount realised, and a similar rate on the amount of dividends declared; in addition to this the Judge may grant special remuneration. The dividends paid and the undivided balances at the end of each year were as follow :—

| Year. | Dividends Paid. | Money in hands of Official Assignees. | | Balance of Bankruptcy Estates Account. |
|---|---|---|---|---|
| | | Unpaid and unclaimed Balances. | Unpaid Dividends. | |
| | £ | £ | £ | £ |
| 1891 | 52,304 | 1,449 | 432 | 21,651 |
| 1892 | 45,084 | 1,145 | 591 | 20,284 |
| 1893 | 40,433 | 9,532 | 132 | 27,287 |
| 1894 | 70,381 | 863 | 305 | 30,985 |
| 1895 | 50,640 | 314 | 530 | 16,738 |
| 1896 | 31,557 | 9,610 | 747 | 23,553 |
| 1897 | 37,900 | 1,474 | 1,065 | 13,208 |
| 1898 | 19,556 | 380 | 355 | 12,609 |
| 1899 | 16,786 | 206 | 925 | 14,660 |
| 1900 | 19,770 | 1,269 | 1,760 | 17,684 |

On the 30th June, 1901, there remained to the credit of the Bankruptcy Unclaimed Dividend Fund £8,002, and to the Bankruptcy Suitors Fund, to which account interest earned by the Unclaimed Dividend Fund is placed, the sum of £1,160.

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District Registrars in Bankruptcy have been appointed throughout the state, and in most instances the positions are filled by Police Magistrates or other court officials. District Registrars have the same powers and jurisdiction as the Registrar in respect to examinations of bankrupts and the technical business of the court.

The following table gives the callings of persons who became bankrupt during 1900; no trade, however, is recorded which showed less than 10 bankrupts:—

| Calling. | No. | Calling. | No. |
|---|---|---|---|
| Labourers | 106 | Agents | 15 |
| Miners | 96 | Carpenters, &c. | 14 |
| Butchers | 20 | Contractors | 14 |
| Hotel-keepers | 20 | Others (under 10 Sequestrations) | 248 |
| Farmers | 18 | | |
| No occupation | 18 | | |
| Storekeepers | 17 | | |
| Carrier, &c. | 16 | Total | 602 |

The foregoing pages deal with the commercial aspect of bankruptcy; other information relating to legal procedure will be found in the chapter dealing with the transactions of the Law Courts.

## Transactions in Real Estate.

The Real Property Act came into force in 1862, dealings in real estate before that year having been regulated by the Deeds Registration Act of 1843. The Real Property Act completely revolutionised the procedure in regard to land transfers, and was modelled on the lines of legislation in South Australia adopted at the instance of Sir R. R. Torrens—hence the popular name of Torrens' Act. The chief features of the Act are the transferring of real property by registration of title instead of by deeds; the absolute indefeasibility of the title when registered; and the protection afforded to owners against possessory claims, as a title issued under the Act stands good notwithstanding any length of adverse possession. From the passing of Torrens' Act all lands sold by the Crown were conveyed to the purchasers under its provisions, and the provisions of the old law were restricted to transactions in respect of grants already issued. The area for which grants under the old system had been issued in 1862 was 7,478,794 acres; since then 1,385,040 acres have been brought under the provisions of Torrens' Act, so that the area still under the Deeds Registration Act is

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6,093,754 acres. Lands are allowed to be placed under Torrens' Act only when their titles are found to be unchallengeable; but thousands of acres are brought under the Act during the course of every year, so that it is merely a question of time when the whole of the lands of the state will be under a uniform system. The area of Crown lands conveyed, and of private lands brought under the Real Property Act during the decade ended 1900 was as follows:—

| Year. | Crown Lands conveyed under the Act. | | Private Lands brought under the Real Property Act. | | Total. | |
|---|---|---|---|---|---|---|
| | Area. | Value. | Area. | Value. | Area. | Value. |
| | acres. | £ | acres. | £ | acres. | £ |
| 1891 | 279,247 | 403,421 | 51,145 | 1,163,044 | 330,392 | 1,566,465 |
| 1892 | 189,990 | 301,165 | 83,627 | 1,243,890 | 273,617 | 1,545,055 |
| 1893 | 253,941 | 306,842 | 44,999 | 962,413 | 298,940 | 1,269,255 |
| 1894 | 267,730 | 485,006 | 45,756 | 808,234 | 313,486 | 1,293,240 |
| 1895 | 289,157 | 261,262 | 22,230 | 755,114 | 311,387 | 1,016,376 |
| 1896 | 320,474 | 226,440 | 53,717 | 861,811 | 374,191 | 1,088,251 |
| 1897 | 268,014 | 161,694 | 26,941 | 617,984 | 294,955 | 779,678 |
| 1898 | 434,692 | 236,090 | 25,169 | 662,888 | 459,861 | 898,978 |
| 1899 | 551,585 | 396,315 | 59,644 | 776,863 | 611,229 | 1,173,178 |
| 1900 | 526,381 | 427,285 | 47,224 | 837,315 | 573,605 | 1,264,600 |

For the whole period during which the Real Property Act (Torrens') has been in operation, 19,044,301 acres, valued at £20,836,029, have been conveyed under its provisions, and 1,385,040 acres, valued at £22,357,922, have been brought under it, and deeds under the old Act to the same extent cancelled.

The transfers and conveyances of private lands which take place during ordinary years indicate in some measure the condition of business; the volume of these transactions, however, in some years cannot be relied upon as giving more than an indication of speculation or inflation. In the following table, which covers ten years, there is shown the consideration money paid on sales of private lands during each year, excluding, of course, lands sold on long terms. During 1888 land to the value of £11,068,873 changed hands, but in 1900 the amount had fallen to £5,710,110. The year 1888 marked the last flickering of the boom

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period, when land speculation proceeded on a scale of unexampled recklessness. The other extreme was reached in 1897, when the value of the land transferred was only slightly more than in 1877, and nearly £1,000,000 less than in 1896. Although the year 1900 showed a greater activity than any of the years since 1892, it is evident that transactions in land still very largely represent conveyances by mortgagors and mortgagees, genuine speculation in land having almost wholly died out:—

| Year. | Conveyances or Transfers. | | |
|---|---|---|---|
| | Under Old System. | Under New System. | Total. |
| | £ | £ | £ |
| 1891 | 4,564,285 | 3,602,082 | 8,166,367 |
| 1892 | 3,537,829 | 2,716,379 | 6,254,208 |
| 1893 | 2,317,777 | 2,532,211 | 4,849,988 |
| 1894 | 1,945,527 | 2,048,977 | 3,994,504 |
| 1895 | 1,812,199 | 1,862,638 | 3,674,837 |
| 1896 | 2,212,158 | 2,009,172 | 4,221,330 |
| 1897 | 1,149,989 | 2,101,390 | 3,251,379 |
| 1898 | 1,275,316 | 2,251,140 | 3,526,456 |
| 1899 | 1,873,076 | 3,099,279 | 4,972,355 |
| 1900 | 2,265,901 | 3,444,209 | 5,710,110 |

As already mentioned, the Real Property Act provides that on the issue of a certificate the title of the person named on the certificate is indefeasible. Provision is, however, made for error in transfer, by which persons might be deprived of their rightful property, as should the transfer be made to the wrong person the holder of the certificate cannot be dispossessed of his property unless he has acted fraudulently. To indemnify the Government for compensating persons who, through error, may have been deprived of their properties, an assurance fund has been created by a contribution of one halfpenny in the pound on the declared capital value being levied on property first brought under the Act, and upon transmissions of titles of estates of deceased proprietors. It is an undeniable proof of the value of the Act, and the facility of its working, that payments from the assurance fund to the 31st December, 1900, in respect of titles improperly granted, amounted to only £15,935.

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The amounts paid into the Treasury on account of the assurance fund during each of the ten years ended 1900 were as follow :—

| Year. | Collections, less Refunds. | Compensation and Cost of Legal Actions. | Amounts Credited to Fund. |
|---|---|---|---|
| | £ | £ | £ |
| 1891 | 5,345 | Nil | 5,345 |
| 1892 | 4,670 | 1,053 | 3,617 |
| 1893 | 4,083 | Nil | 4,083 |
| 1894 | 4,882 | 367 | 4,515 |
| 1895 | 4,276 | 1 | 4,275 |
| 1896 | 3,912 | 12 | 3,900 |
| 1897 | 4,721 | 35 | 4,686 |
| 1898 | 4,808 | 2 | 4,806 |
| 1899 | 5,272 | 324 | 4,948 |
| 1900 | 4,284 | 12,414 | ..... |

The assurance fund, which forms part of the Trust Fund of the Treasury, amounted to £180,331 at the close of 1900, and bears interest at rates of 3 and 4 per cent. The accretions to this fund—that is, interest and collections—average now fully £10,000 per annum, while the total withdrawals during the whole currency of the Act have reached £15,935; thus, as there is every likelihood of the amount annually added growing larger as years roll on, the fund bids fair to attain considerable dimensions.

## MORTGAGES.

All mortgages, except those regulated by the Bills of Sale Act of 1855 and the Merchant Shipping Act of 1894, are registered at the Registrar-General's Office, and it is a fair assumption that the number recorded represents the bulk of the mortgages effected. Where more than one mortgage has been effected on the same property, the mortgages take priority according to the time of registration, and not in accordance with their respective dates. The amount of consideration for which a mortgage stands as security is not always stated in the deeds, the words "valuable consideration" or "cash credit" being inserted instead of a specific sum in many of the transactions of banks and other loan institutions, in cases where the advances made are liable to fluctuation; and as this frequently occurs when the property mortgaged is of great value, an exact statement of the total advances against mortgages cannot be given. It must be borne in mind, therefore, that the figures in the tables given below refer only to cases in which a specific amount is stated in the deeds, whether that amount be the sum actually advanced or not. What is true of mortgages registered holds good for discharges, the amount of which, as shown in the tables, is still further reduced by the exclusion of mortgages which have been satisfied by foreclosure or seizure, a record of which is not available. Many mortgages, therefore, appear in the official records as current, notwithstanding that the property which they represent has passed away from the mortgagor.

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## Mortgages of Real Estate.

Mortgages of land are registered either under the Deeds Registration Act of 1843 or the Real Property Act of 1862, according to the Act under which the title of the property stood at the time of registration. The mortgages registered for each of the ten years ended 1900 were :—

| Year. | Registrations— | | | | | |
|---|---|---|---|---|---|---|
| | Under Deeds Registration Act. | | Under Real Property Act. | | Under both Acts. | |
| | Number. | Consideration. | Number. | Consideration. | Number. | Consideration. |
| | | £ | | £ | | £ |
| 1891 | 10,348 | 10,520,261 | 4,523 | 8,535,876 | 14,871 | 19,056,137 |
| 1892 | 10,450 | 9,328,563 | 4,644 | 6,770,594 | 15,094 | 16,099,157 |
| 1893 | 9,351 | 7,434,029 | 4,704 | 6,034,324 | 14,055 | 13,468,353 |
| 1894 | 8,901 | 5,824,797 | 4,277 | 5,624,968 | 13,178 | 11,449,765 |
| 1895 | 8,467 | 7,183,729 | 3,886 | 4,741,877 | 12,353 | 11,925,606 |
| 1896 | 7,855 | 5,428,148 | 3,677 | 4,652,779 | 11,532 | 10,080,927 |
| 1897 | 3,898 | 4,147,583 | 3,571 | 4,354,412 | 7,469 | 8,501,995 |
| 1898 | 3,861 | 4,698,034 | 3,617 | 4,807,182 | 7,478 | 9,505,216 |
| 1899 | 3,676 | 4,280,730 | 3,923 | 4,282,651 | 7,799 | 8,563,381 |
| 1900 | 3,468 | 3,839,860 | 3,991 | 4,965,746 | 7,459 | 8,805,606 |

The consideration given generally represents the principal owing; in some cases, however, it stands for the limit within which clients of banks and other loan institutions are entitled to draw, though many of these clients may be in credit while their property is mortgaged and unreleased.

The amount of mortgages discharged has always been much less than the amount registered, for, as previously mentioned, the discharges do not include foreclosures, which if not formally registered as discharges are nevertheless mortgages cancelled. The volume of the releases is also reduced by mortgages paid off in instalments, as the discharges may be given for the last sum paid, which might happen to bear a very small proportion to the total sum borrowed; and, further, the total of discharges is reduced owing to the practice, now largely followed, of allowing mortgages maturing on fixed dates to be extended for an indefinite period.

Conveyances under mortgage or purchases of equity of redemption, and transfers which represent dealings between mortgagees,

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are, in point of value, unimportant; nevertheless, to complete the transactions in mortgages, returns covering the period of ten years ended 1900 are given below. The table is incomplete, as the consideration in respect of conveyances and transfers under the Real Property Act cannot be given; while the figures for 1900 are exclusive of 3 conveyances under mortgage, and 105 transfers of mortgages, for which the amounts involved are not stated :—

| Year. | Deeds Registration Act of 1843. | | | | Transfers of Mortgage under Real Property Act. |
|---|---|---|---|---|---|
| | Conveyances under Mortgage. | | Transfers of Mortgages. | | |
| | Number. | Consideration. | Number. | Consideration. | Number. |
| | | £ | | £ | |
| 1891 | 348 | 245,111 | 246 | 390,243 | 218 |
| 1892 | 392 | 162,307 | 253 | 1,219,401 | 255 |
| 1893 | 430 | 216,925 | 383 | 276,507 | 347 |
| 1894 | 374 | 381,738 | 508 | 485,489 | 318 |
| 1895 | 320 | 159,608 | 600 | 768,368 | 308 |
| 1896 | 467 | 256,967 | 370 | 287,361 | 227 |
| 1897 | 450 | 280,583 | 146 | 174,379 | 215 |
| 1898 | 406 | 276,803 | 200 | 306,488 | 258 |
| 1899 | 285 | 128,423 | 166 | 380,363 | 278 |
| 1900 | 162 | 142,667 | 273 | 526,542 | 254 |

## Mortgages on Live Stock and Wool.

Liens on wool, mortgages on live stock, and liens on growing crops are registered under special Acts, the two first mentioned under a temporary measure passed in 1847, which was continued from time to time and became permanent by a special enactment in 1860, and the liens on growing crops under one passed in 1862. The mortgages on live stock are current till discharge, while the liens on wool mature at the end of each season and terminate without being formally discharged. Mortgages under each Act are valid without the stock or crops being delivered to the mortgagees. The figures relating to live stock are given in some detail, as they throw considerable light on the condition of the great industry of the country. They must, however, be taken with this qualification, that the amount stated represents in many cases merely nominal indebtedness, and the advances are not in every instance made to persons financially embarrassed. But with full allowance on this score, the figures given hereunder will make it plain how large a hold the lending institutions have upon the great pastoral industry. The following statement shows the liens on wool and the mortgages on live stock registered during each of the ten years ended 1900. Sums

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secured both by a lien on the wool and by mortgage of the sheep, are included under the head of mortgages only :—

| Year. | Preferable Liens on Wool. | | | Mortgages on Live Stock. | | | | |
|---|---|---|---|---|---|---|---|---|
| | Number. | No. of Sheep. | Consideration. | Number. | No. of Sheep. | No. of Horned Cattle. | No. of Horses. | Consideration. |
| | | | £ | | | | | £ |
| 1891 | 1,701 | 10,201,412 | 1,320,323 | 2,328 | 6,896,947 | 111,432 | 16,723 | 2,632,758 |
| 1892 | 2,051 | 12,094,876 | 1,688,961 | 2,326 | 5,966,971 | 142,695 | 16,904 | 2,814,637 |
| 1893 | 2,257 | 13,204,407 | 1,935,660 | 2,270 | 8,357,014 | 227,531 | 24,241 | *3,176,725 |
| 1894 | 2,627 | 16,084,929 | 1,952,451 | 2,167 | 6,586,711 | 698,448 | 18,016 | *2,059,381 |
| 1895 | 2,509 | 14,689,647 | 2,101,048 | 1,901 | 4,983,071 | 148,629 | 18,292 | 2,254,290 |
| 1896 | 2,364 | 11,309,327 | 1,341,949 | 1,768 | 4,748,695 | 93,550 | 24,520 | 1,705,245 |
| 1897 | 2,183 | 9,277,004 | 1,056,721 | 1,678 | 4,290,304 | 62,644 | 13,474 | 1,418,884 |
| 1898 | 2,012 | 8,492,863 | 1,048,261 | 1,884 | 2,192,645 | 95,454 | 14,375 | 1,518,887 |
| 1899 | 1,947 | 6,773,749 | 726,589 | 2,063 | 3,540,555 | 87,039 | 14,385 | 1,098,655 |
| 1900 | 1,758 | 5,062,024 | 790,421 | 2,102 | 3,708,874 | 59,358 | 12,062 | 1,667,583 |

* The figures for 1893 and 1894 include the consideration for 245 and 22 camels respectively.

To supplement the information just given, the following table, which shows the proportion of the flocks of the state covered by lien and mortgage, has been compiled. In addition to the numbers given, a considerable quantity of stock is in the hands of financial institutions as mortgagees in possession, but an exact statement of this it is not possible to obtain :—

| Year. | Sheep. | | | Horned Cattle. | | | Horses. | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total in State. | Involved in Lien and Mortgage. | Proportion involved to total flocks. | Total in State. | Involved in Mortgage. | Proportion involved to total herds. | Total in State. | Involved in Mortgage. | Proportion involved to total number. |
| | No. | No. | per cent. | No. | No. | per cent. | No. | No. | per cent. |
| 1891 | 61,831,416 | 17,098,359 | 27·7 | 2,128,338 | 111,432 | 5·2 | 469,647 | 16,723 | 3·6 |
| 1892 | 58,080,114 | 18,061,847 | 31·1 | 2,221,459 | 142,695 | 6·4 | 484,309 | 16,904 | 3·5 |
| 1893 | 56,980,688 | 21,561,421 | 37·8 | 2,269,852 | 227,531 | 10·0 | 493,231 | 24,241 | 4·9 |
| 1894 | 56,077,270 | 22,671,640 | 39·8 | 2,465,411 | 698,448 | 28·3 | 518,181 | 18,016 | 3·5 |
| 1895 | 47,617,687 | 19,672,718 | 41·3 | 2,150,057 | 148,629 | 6·9 | 487,943 | 18,292 | 3·7 |
| 1896 | 48,318,790 | 16,058,022 | 33·2 | 2,226,163 | 93,550 | 4·2 | 510,636 | 24,520 | 4·8 |
| 1897 | 43,952,397 | 13,567,308 | 30·9 | 2,085,096 | 62,644 | 3·0 | 498,034 | 13,474 | 2·7 |
| 1898 | 41,241,004 | 10,685,508 | 25·9 | 2,029,516 | 95,454 | 4·7 | 491,553 | 14,375 | 2·9 |
| 1899 | 36,213,514 | 10,314,304 | 28·5 | 1,967,081 | 87,039 | 4·4 | 482,200 | 14,385 | 3·0 |
| 1900 | 40,020,506 | 8,770,898 | 21·9 | 1,983,116 | 59,358 | 3·0 | 481,417 | 12,062 | 2·5 |

The mortgages shown represent the annual registrations; hence the sheep involved were those pledged during twelve months only; and as the currency of a mortgage on live stock, unlike that of a lien which terminates at the end of the season, is variable, it follows that the figures in any year do not represent the total number of sheep covered by mortgage, and that the proportion of the flocks held under lien and mortgage, after making every allowance for releases, is therefore somewhat higher than that stated. This remark applies equally to the figures given for horned cattle and for horses.

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### Discharges of Mortgages.

The number of discharges registered amounts in an ordinary year to about one-sixth of the mortgages of live stock registered. The figures for the ten years ended 1900 were:—

| Year. | Number. | Amount. | Year. | Number. | Amount. |
|---|---|---|---|---|---|
| | | £ | | | £ |
| 1891 | 380 | 1,184,372 | 1896 | 432 | 886,218 |
| 1892 | 317 | 985,048 | 1897 | 385 | 549,064 |
| 1893 | 286 | 1,062,827 | 1898 | 423 | 821,644 |
| 1894 | 334 | 496,041 | 1899 | 432 | 957,082 |
| 1895 | 372 | 1,053,863 | 1900 | 521 | 687,787 |

There were also 29 discharges of liens, amounting to £35,255 during 1900; these represent transfers of security and repayments during the season, as liens terminate by effluxion of time at the close of the wool season.

### Liens on Growing Crops.

Under the provisions of the Act, liens, the duration of which must not exceed one year, are made on agricultural and horticultural produce. Such advances do not ordinarily reach large sums, either individually or in their total, as there is an element of uncertainty in the security offered. During the last ten years the advances ranged from £78,448 to £219,392 per annum. The liens registered in 1900 were 1,514 in number, covering advances to the extent of £161,887:—

| Year. | Number. | Consideration. | Year. | Number. | Consideration. |
|---|---|---|---|---|---|
| | | £ | | | £ |
| 1891 | 1,171 | 78,448 | 1896 | 2,567 | 202,605 |
| 1892 | 1,416 | 130,155 | 1897 | 1,947 | 151,334 |
| 1893 | 1,789 | 159,007 | 1898 | 1,779 | 161,216 |
| 1894 | 2,291 | 181,432 | 1899 | 1,712 | 158,359 |
| 1895 | 2,621 | 219,392 | 1900 | 1,514 | 161,887 |

### Mortgages on Ships.

Mortgages of registered British vessels are dealt with under the Merchant Shipping Act of 1894. The mortgages are, according to the Act, divided into two classes, one in which the ship is the sole security, and the other in which the advances are made on the security of what is termed in the Act "the account current," which may comprise ships, wharfage appliances, etc. Registrations are effected at the two ports of

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registry, Sydney and Newcastle; the returns given in the subjoined statements apply to both ports :—

| Year. | Mortgage on ships only. | | | | Mortgage on account current. | | | |
|---|---|---|---|---|---|---|---|---|
| | Sailing Vessels. | | Steam Vessels. | | Sailing Vessels. | | Steam Vessels. | |
| | No. | Amount. | No. | Amount. | No. | Amount. | No. | Amount. |
| | | £ | | £ | | £ | | £ |
| 1891 | 37 | 22,377 | 7 | 3,022 | 4 | 3,672 | 8 | 8,800 |
| 1892 | 36 | 18,571 | 9 | 16,835 | 19 | 51,293 | 6 | 10,000 |
| 1893 | 23 | 13,152 | 10 | 6,681 | 12 | 315 | 15 | 3,019 |
| 1894 | 34 | 11,420 | 21 | 13,577 | 4 | 1,855 | 7 | 16,600 |
| 1895 | 24 | 9,790 | 9 | 4,617 | 9 | 900 | 15 | 19,730 |
| 1896 | 18 | 6,165 | 18 | 19,630 | 9 | 5,450 | 4 | 7,250 |
| 1897 | 21 | 7,745 | 23 | 22,917 | 2 | 1,509 | 12 | 12,934 |
| 1898 | 13 | 4,652 | 9 | 5,840 | 5 | 3,550 | 12 | 21,258 |
| 1899 | 10 | 4,525 | 16 | 27,487 | 6 | 13,250 | 18 | 42,104 |
| 1900 | 27 | 11,839 | 10 | 10,340 | 10 | 1,555 | 7 | 9,891 |

The number of mortgages registered in which ships figure as the sole security represents the vessels encumbered—that is to say, "one ship one mortgage"; the number of mortgages in the other class may or may not represent the number of vessels mortgaged. The discharges of mortgages during the same period were as follow :—

| Year. | Mortgage on ships only. | | | | Mortgage on account current. | | | |
|---|---|---|---|---|---|---|---|---|
| | Sailing Vessels. | | Steam Vessels. | | Sailing Vessels. | | Steam Vessels. | |
| | No. | Amount. | No. | Amount. | No. | Amount. | No. | Amount. |
| | | £ | | £ | | £ | | £ |
| 1891 | 17 | 12,482 | 10 | 9,004 | 3 | No amount | 7 | 12,400 |
| 1892 | 23 | 9,769 | 7 | 3,872 | 6 | 2,717 | 2 | 872 |
| 1893 | 20 | 13,962 | 5 | 13,026 | 1 | No amount | 2 | 90 |
| 1894 | 13 | 5,948 | 12 | 10,325 | 1 | do | nil. | nil. |
| 1895 | 28 | 11,096 | 7 | 8,664 | 6 | 216 | 8 | 1,000 |
| 1896 | 15 | 5,230 | 9 | 13,553 | 2 | 501 | 2 | 150 |
| 1897 | 11 | 3,193 | 18 | 16,643 | 4 | 840 | 7 | 4,800 |
| 1898 | 16 | 6,659 | 8 | 10,002 | 5 | 1,513 | 1 | 1 |
| 1899 | 13 | 7,494 | 14 | 21,185 | 4 | 2,303 | 12 | 16,459 |
| 1900 | 7 | 2,575 | 11 | 4,361 | 4 | 1,052 | 15 | 4,383 |

In some cases of mortgages on account current the amount of consideration is not stated, and the figures given must be accepted with this qualification.

### Bills of Sale.

All mortgages of personalty other than ships and shipping appliances, wool, live stock, and growing crops, are filed and entered at the Supreme Court under the Bills of Sale Act of 1855, as consolidated by Act No. 10 of 1898. This Act provides that each document shall be filed and entered within thirty days after it is made or given, otherwise the transaction is

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illegal; and that the registration shall be renewed every twelve months; and to prevent fraud and imposition the records are open to the inspection of the public. The total amount of advances annually made on bills of sale is not readily available, but judging from the number of bills filed the sum must be considerable. The provisions of the Act are availed of by all classes of the community, but brewers and money lenders figure conspicuously among the transferrees. No complete record is made of the bills terminated voluntarily or by seizure, the official records showing only those discharged in the ordinary way. Seizures of the security given, which generally comprises household furniture and stock-in-trade, are common occurrences, and it is to be regretted that no record of them is kept; but, as previously shown, the neglect in the registration of foreclosures is a weakness in the procedure under all Acts regulating mortgage transactions. The bills filed and the discharges registered for the ten years ended 1900 were as follow:—

| Year. | Registrations. | | Renewals under Bills of Sale Act of 1898. |
|---|---|---|---|
| | Filed in Supreme Court. | Satisfied or orders for discharge made. | |
| 1891 | 2,697 | 136 | ..... |
| 1892 | 2,776 | 132 | ..... |
| 1893 | 3,111 | 96 | ..... |
| 1894 | 2,752 | 77 | ..... |
| 1895 | 2,512 | 140 | ..... |
| 1896 | 2,375 | 158 | ..... |
| 1897 | 3,368 | 156 | ..... |
| 1898 | 3,725 | 220 | 1,375 |
| 1899 | 3,945 | 223 | 1,742 |
| 1900 | 3,503 | 207 | 2,005 |

## SUMMARY OF MORTGAGES.

The volume of mortgages registered and discharged under each class is given below. As the returns are incomplete, from causes already alluded to, no general total has been established. The following table shows the total consideration of the mortgages registered during each of the last five years:—

| Property. | 1896. | 1897. | 1898. | 1899. | 1900. |
|---|---|---|---|---|---|
| | £ | £ | £ | £ | £ |
| On Real Estate— | | | | | |
| Under Deeds Registration Act .... | 5,428,148 | 4,147,583 | 4,698,034 | 4,280,739 | 3,839,860 |
| ,, Real Property Act..... | 4,652,779 | 4,354,412 | 4,807,182 | 4,282,651 | 4,965,746 |
| On Personalty— | | | | | |
| Liens on Wool ..... | 1,341,949 | 1,056,721 | 1,048,264 | 726,589 | 790,421 |
| Mortgages on Live Stock ..... | 1,705,245 | 1,418,884 | 1,518,887 | 1,098,655 | 1,667,583 |
| Liens on Growing Crops ..... | 202,605 | 151,334 | 161,216 | 158,359 | 161,887 |
| Mortgages on Ships ..... | 25,795 | 30,662 | 10,492 | 32,012 | 22,179 |
| ,, and Shipping Appliances ..... ..... | *12,700 | 14,443 | 24,808 | 55,354 | 11,446 |
| Bills of Sale ..... | Not available. | | | | |

* Figures incomplete.



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The consideration of the mortgages of which discharges were registered during each of the last five years is given below :—

| Property. | 1896. | 1897. | 1898. | 1899. | 1900. |
|---|---|---|---|---|---|
| On Real Estate.. | £ | £ | £ | £ | £ |
| Under Deeds Registration Act .... | 3,106,361 | 2,108,981 | 2,591,535 | 2,620,983 | 2,591,566 |
| ,, Real Property Act..... | 2,796,795 | 2,689,530 | 2,774,495 | 3,067,547 | 2,952,445 |
| On Personalty— | | | | | |
| Liens on Wool ..... | At end of each Season. | | | | |
| Mortgages on Live Stock ..... | 836,218 | 549,064 | 821,644 | 957,682 | 667,787 |
| Liens on Growing Crops ..... | At end of each Season. | | | | |
| Mortgages on Ships ..... | 18,783 | 19,836 | 16,661 | 28,672 | 6,236 |
| ,, ,, and Shipping Appliances ..... | 651 | 5,640 | 1,514 | 13,762 | 5,425 |
| Bills of Sale ..... | Not available. | | | | |

* Figures incomplete.

## Friendly Societies.

The position occupied by Friendly Societies at the present day is a most important one, on account of the strong influence which they exert on the welfare of the industrial classes of the population; and recognising the services which they render to the community by the inculcation of habits of thrift, and the relief of cases of distress which it would otherwise be the duty of the public to alleviate, the State, while forbidding the carrying on of operations by an unregistered society, and imposing a penalty on each member of its committee should it accept money in consideration of any interest therein, grants certain privileges to societies whose rules have been certified to by the Registrar as being in conformity with the law. These privileges are as follow :—

1. A registered Society can legally hold land and other kinds of property in the names of trustees, such property passing from one trustee to another by the mere fact of appointment, and can carry on all legal proceedings in the trustees' names.
2. The Society has a remedy on summary conviction whenever any person—
   (*a*) Obtains possession of its property by false representation or imposition ;
   (*b*) Having possession of any of its property, withholds or misapplies it ;
   (*c*) Wilfully applies any part of such property to purposes other than those expressed or directed by the rules and authorised by the Act.
3. If an officer of the Society dies or becomes bankrupt or insolvent, or if an execution is issued against him whilst he has money or property of the Society in his possession by virtue of his office, the trustees of the Society are entitled to claim such money or property in preference to any other creditors.

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4. The documents of the Society are free from stamp duty.
5. The Society can admit members under twenty-one and take from them binding receipts, which would otherwise be of no effect.
6. If it invests money on mortgage, such mortgages can be discharged by a mere endorsed receipt without reconveyance.
7. Its officers are legally bound to render account and give up all money or property in their possession on demand or notice, and may be compelled to do so.
8. Disputes can be legally settled according to the Society's own rules.
9. Members of registered Friendly Societies have the privilege of legally insuring money, on the deaths of their wives and children, for their funeral expenses, without having an insurable interest in their lives.
10. Members of registered Societies may dispose at death of sums payable by the Society by written nomination without a will; and this nomination may be made by youths of sixteen, who cannot make a will till they are twenty-one.
11. Where there is no will and no nomination, the trustees may distribute sums without letters of administration being taken out. (A person who should do so in any other case would make himself liable for the debts of the deceased).

Most of the Friendly Societies operating in New South Wales were founded by old members of English orders who had emigrated to Australia before the light of public investigation had been thrown upon the business of the societies in Great Britain, and an exposure made of the unscientific principles on which they were being conducted. Accordingly, the societies established in this state were from the commencement worked under a fallacious system, which was regarded as perfect; and as soon as it was discovered that there was an accumulation of funds, the members looked upon the money as their personal property—in fact, as profit derived from their exertions. They argued that any probable change from the existing satisfactory condition of affairs would be fully compensated for by the introduction of younger members, who in their turn would be satisfied with the present, and trust to others in the future; and any proposal for the application to their affairs of the scientific principles which governed the operations of friendly societies elsewhere was strenuously opposed as unnecessary, until very recently, when many leading members were induced, owing to the rapid depletion of the funds of their orders, to give serious consideration to their position.

One of the principal causes which raised this false feeling of security was that in times of general prosperity many employers paid good workmen their wages during short periods of sickness in order to retain their services, and members in receipt of high wages and in tolerably easy circumstances did not feel the necessity of accepting assistance from their lodges. Also, it must be borne in mind that in those years the members were young, and even if all claims had been preferred it

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is probable that the benefits would not have amounted to a large sum, so that the funds of the societies could not do otherwise than increase in spite of the inadequate scale of contributions charged. An examination of the records of the registration of amended rules shows what the accumulation of capital led to: in many cases the members of a society thought it right not only to lower their contributions, but at the same time to increase the benefits given. The inevitable results have happened: the members have grown older, the claims on account of sickness and death have increased, and the depression in trade has compelled those out of employment to come upon the funds whenever possible, so that many of the societies now existing are in a state of insolvency.

As has already been stated, when the fallacy underlying the old system of conducting the affairs of the societies had been so forcibly exploded, some attempt was made to place affairs on a sound basis, but the steps taken by many of the older members were halting and uncertain; they conceded that an error of judgment was committed in the past, but were unwilling to tax themselves to any considerable extent for the purpose of placing matters upon a better footing. At the same time they were convinced that no new members should be admitted unless they paid according to a properly-adjusted scale of contributions. It became, therefore, necessary for Parliament to place the societies into a more satisfactory position by legislative action. This was done by the Act No. 31 of 1899, assented to on the 5th December of that year. The main points of the Act are:—

1. The recognition of the authority of the grand lodges over the subordinate branches.
2. The enlargement of the powers of the Registrar in the direction of the inspection of the lodge-books and the initiation of prosecutions in cases of defalcation.
3. The re-registration of all existing societies, and the power given to the Registrar to insist upon the adoption of an adequate scale of contributions before granting registration.
4. The provision for a quinquennial valuation, and the power to enforce the improvement of the scale of contributions, if this should be shown to be inadequate by the valuation.

This Act was amended in 1900, and again in 1901, the principal amendments being the extension of the period for registration to June, 1902, and provision that existing societies may be re-registered for five years conditionally upon members who join before the registration contributing not less than at present, and new members on an adequate scale to be certified to by an actuary. The further re-registration at the end of the period indicated will be contingent on the Registrar being satisfied that the society has improved its financial position in respect to the old members, or that the society has adopted an adequate scale of contributions.

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A list of the principal societies is given below, from which it will be seen that at the end of 1899, the last year for which complete returns are available, there were in existence 16 leading orders (some of them subdivided into districts, provinces, or grand divisions), comprising 780 distinct subordinate branches; and 29 independent societies:—

| Name of Orders or Societies. | Lodges or Branches. | Members. | Members good on books. | Amount of Lodge or Branch Funds. | Amount of District or Grand Lodge Funds. | Total Funds. |
|---|---|---|---|---|---|---|
| | No. | No. | No. | £ | £ | £ |
| Manchester Unity I.O.O.F.— | | | | | | |
| Sydney District | 66 | 9,842 | 9,258 | 103,762 | 31,328 | 135,090 |
| Cumberland District | 8 | 621 | 540 | 2,497 | 1,564 | 4,061 |
| Hunter River District | 7 | 661 | 600 | 7,444 | 2,590 | 10,034 |
| Goulburn District | 10 | 963 | 891 | 7,426 | 9,712 | 17,138 |
| Newcastle District | 10 | 1,244 | 1,190 | 3,037 | 7,992 | 11,029 |
| Bathurst District | 21 | 1,599 | 1,465 | 15,560 | 8,393 | 23,953 |
| Tamworth District | 18 | 1,947 | 1,757 | 24,436 | 11,490 | 35,926 |
| Riverina District | 8 | 1,013 | 797 | 5,323 | 4,117 | 9,440 |
| Braidwood District | 1 | 83 | 79 | 638 | 1,594 | 2,232 |
| Young District | 4 | 533 | 483 | 2,844 | 1,959 | 4,803 |
| Wagga Wagga District | 3 | 644 | 577 | 8,599 | 1,515 | 10,114 |
| Grand United O.O.F.— | | | | | | |
| Sydney District | 39 | 4,809 | 4,169 | 30,384 | 11,872 | 42,256 |
| Braidwood District | 19 | 1,113 | 934 | 6,712 | 7,940 | 14,652 |
| Manning River District | 6 | 226 | 197 | 1,602 | 939 | 2,541 |
| Newcastle District | 3 | 291 | 265 | 2,083 | 439 | 2,522 |
| Hunter River District | 22 | 1,857 | 1,685 | 11,090 | 3,198 | 14,288 |
| Bathurst District | 5 | 449 | 354 | 2,617 | 1,964 | 4,581 |
| Goulburn District | 8 | 580 | 484 | 3,860 | 2,095 | 5,955 |
| Williams River District | 5 | 260 | 243 | 2,701 | 483 | 3,184 |
| Widow and Orphans' Fund in the Hunter River District. | .... | .... | .... | .... | 698 | 698 |
| Independent C.O.F. | 69 | 5,457 | 4,459 | 26,416 | 20,377 | 46,793 |
| National Independent O.O.F. | 7 | 1,077 | 754 | 2,339 | 1,144 | 3,483 |
| Ancient Order of Foresters— | | | | | | |
| Sydney District | 42 | 3,590 | 3,100 | 15,255 | 10,420 | 25,675 |
| New England District | 6 | 316 | 251 | 446 | 586 | 1,032 |
| Neutral Courts | 9 | 1,407 | 1,279 | 10,879 | .... | 10,879 |
| Order of Royal Foresters | 24 | 1,950 | 1,801 | 12,615 | 16,241 | 28,856 |
| Irish National Foresters | 5 | 205 | 206 | 961 | 313 | 1,294 |
| United Ancient Order of Druids— | | | | | | |
| Sydney District | 48 | 5,910 | 4,812 | 16,653 | 7,992 | 24,645 |
| Newcastle District | 11 | 1,021 | 941 | 4,657 | 2,610 | 7,267 |
| Grand United Order of Free Gardeners. | 29 | 1,850 | 1,673 | 4,961 | 637 | 5,598 |
| Independent Order of Rechabites | 48 | 2,148 | 1,736 | 1,925 | 13,611 | 15,536 |
| Sons and Daughters of Temperance | 64 | 3,491 | 3,092 | 19,259 | 1,896 | 21,155 |
| Protestant Alliance Friendly Society of Australasia. | 61 | 6,393 | 5,431 | 36,109 | 21,411 | 57,520 |
| Loyal Protestant Benefit Society | 21 | 762 | 646 | 2,166 | 1,414 | 3,580 |
| Hibernian Australasian Benefit Society. | 39 | 2,463 | 2,061 | 6,766 | 6,274 | 13,040 |
| Australasian Holy Catholic Guild. | 32 | 1,961 | 1,703 | 13,211 | 6,232 | 19,443 |
| Australian Oddfellows' Union | 2 | 622 | 548 | 2,823 | 198 | 3,021 |
| Miscellaneous Societies | 29 | 3,442 | 3,318 | 16,448 | .... | 16,448 |
| Total | 809 | 72,850 | 63,799 | 436,524 | 223,238 | 659,762 |

The number of members admitted during 1899 was 9,945; while 6,734 were lost from all causes. The total cases of sickness came to

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13,517, and the average amount of sick pay was £4 9s. 10d. per member. The total receipts were £266,938, and the expenditure amounted to £232,295; while the total funds were £659,762, as shown above, or £9 1s. 1d. per member enrolled.

The benefits promised by Friendly Societies are, in kind, much the same in all societies, and usually comprise medical attendance and medicine for a member and his family, sick pay—generally £1 per week for the first six months, reduced thereafter to 15s. or 10s.; allowance in the event of the death of a member's wife, and funeral money to his wife on the death of a member. The Act limits the amount payable on the death of a member to £200, and no annuity can be granted above £50, but there is no limit to the amount of sick pay, although the rules of some societies limit the total amount receivable weekly to 42s., nor to the number of societies to which one person may belong, and from which he may receive benefits, but the combined benefits must not exceed the above-mentioned amounts.

In addition to the Friendly Societies properly so called, some of the registered Trade Unions give benefits analogous to those of the societies mentioned above. The benefits, however, are usually smaller in amount, seldom exceeding 12s. a week for sick pay, and £7 in case of death. A few Trade Unions also make allowances to their members when they are out of employment.

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# POPULATION.

THE latest Census of New South Wales was taken in 1901, and tables showing the number and ages of the people are published herein. At a conference of statisticians, the 31st March, 1901, was fixed upon as the most suitable date for taking a simultaneous Census of the Commonwealth and New Zealand, and by legislative enactment this date was appointed Census day. The population of the Commonwealth was returned as 3,781,537, and of New Zealand, 772,719. The following table shows the population of each of the states, and of New Zealand, as shown by the Census :—

| State. | Population. |
|---|---|
| New South Wales | 1,359,133 |
| Victoria | 1,201,506 |
| Queensland | 503,266 |
| South Australia | 362,604 |
| Western Australia | 182,553 |
| Tasmania | 172,475 |
| Commonwealth | 3,781,537 |
| New Zealand | 772,719 |

The proportion of the Commonwealth population belonging to each state was as follows:—New South Wales, 35·94 per cent.; Victoria, 31·77 per cent.; Queensland, 13·31 per cent.; South Australia, 9·59 per cent.; Western Australia, 4·83 per cent.; and Tasmania, 4·56 per cent.

Prior to the taking of the Census in 1901, there had been no actual enumeration of the people of New South Wales since 1891, but an approximate return was made up of the estimated population on the 31st December in each year. This was carried out by taking into account the increase caused by the excess of births over deaths, and of arrivals over departures. It is evident that if these data could be ascertained exactly, there would be no difficulty in making an accurate estimate of the population at any time. But although the machinery for the registration of births and deaths ensures a fairly correct return under these heads, it is not so easy to obtain exact particulars respecting arrivals and departures—especially departures. The lists of passengers arriving by sea are usually accurate; but in the case of persons leaving the state, it is found that large numbers go on board steamers at the last moment, without having previously booked their names, and so are not recorded amongst the emigrants. It therefore becomes necessary, when estimating the population, to make allowance for unrecorded departures. As the

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result of a careful examination during 1900, it was ascertained that sufficient allowance had not been made for unrecorded departures and that the estimates of late years were therefore in excess of the actual population. Consequently they were recast, and, as now presented, the figures will be found to differ from those published in the last edition of this work.

In the table given hereunder showing the estimated population of New South Wales at the close of the various years from 1861 to 1900, due allowance has been made for unrecorded departures :—

| Year. | Males. | Females. | Total. |
|---|---|---|---|
| 1861 | 201,574 | 156,404 | 357,978 |
| 1866 | 235,116 | 193,697 | 428,813 |
| 1871 | 282,846 | 234,912 | 517,758 |
| 1876 | 333,515 | 280,666 | 614,181 |
| 1881 | 429,020 | 353,060 | 782,080 |
| 1886 | 543,260 | 446,080 | 989,340 |
| 1891 | 628,045 | 534,145 | 1,162,190 |
| 1892 | 641,545 | 550,245 | 1,191,790 |
| 1893 | 651,755 | 562,795 | 1,214,550 |
| 1894 | 663,085 | 576,165 | 1,239,250 |
| 1895 | 672,520 | 589,750 | 1,262,270 |
| 1896 | 680,185 | 598,785 | 1,278,970 |
| 1897 | 692,090 | 609,690 | 1,301,780 |
| 1898 | 701,815 | 621,315 | 1,323,130 |
| 1899 | 710,520 | 633,560 | 1,344,080 |
| 1900 | 718,995 | 645,595 | 1,364,590 |

For the whole of the Commonwealth the average rate of increase of population during the ten years ended 1900 was 1·80 per cent., the highest rate in any one year within the period being 2·86 per cent. in 1891, and the lowest, 1·28 per cent. in 1898. The rush to Western Australia since 1891 has given that state the largest average annual increase during the decade, namely, 14·55 per cent. The movement of population was subject to great variation in the course of the ten years, the increase ranging from 1·73 per cent. in 1899 to 36·26 per cent. in 1896. Queensland is the state which, next to Western Australia, has had the highest rate of increase, the average annual rate being 2·42 per cent., with a maximum of 3·28 per cent. in 1900, and a minimum of 1·82 per cent. in 1891. New South Wales had an increase averaging 1·98 per cent. annually, with a maximum rate of 3·59 per cent. in 1891, and a minimum of 1·32 per cent. in 1896; while Victoria occupied the lowest position, with an average rate of increase of but 0·55 per cent. It is interesting to compare the two great states of the Commonwealth in this matter of movement of population during the past few years. At the Census of 1891 Victoria had a majority of 8,171 inhabitants; but in 1901 New South Wales had a majority, as shown by the Census, of 157,627. In every year since 1889, New South Wales has had the

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greater rate of increase, Victoria actually experiencing one decrease to the extent of 0·47 per cent. in 1896, and another to the extent of 0·02 per cent. in 1898. In the states of Tasmania, and South Australia, the annual increase during the last ten years was at the rate of 1·76 per cent., and 1·24 per cent. respectively. The maximum rate in Tasmania was 4·16 per cent. in 1891; and in South Australia, 3·03 per cent. in 1892. Tasmania had a decrease to the extent of 950, or 0·06 per cent. during 1892, while the lowest rate of increase in South Australia was 0·22 per cent. in 1897. The average rate of increase in New Zealand during the ten years was 2·10 per cent., ranging from 1·28 per cent. in 1891, to 3·36 per cent. in 1893.

The growth of population in the Commonwealth of Australia, and also in New Zealand, in periods from 1861 to the end of 1900, is shown in the following table:—

| Year. | Commonwealth. | New Zealand. | Total. |
|---|---|---|---|
| 1861 | 1,166,877 | 99,021 | 1,265,898 |
| 1866 | 1,442,426 | 204,114 | 1,646,540 |
| 1871 | 1,703,080 | 266,986 | 1,970,066 |
| 1876 | 1,961,480 | 399,075 | 2,360,555 |
| 1881 | 2,323,384 | 500,075 | 2,823,459 |
| 1886 | 2,801,828 | 589,386 | 3,391,214 |
| 1891 | 3,249,380 | 634,060 | 3,883,440 |
| 1896 | 3,558,810 | 714,160 | 4,272,970 |
| 1897 | 3,623,460 | 729,060 | 4,352,520 |
| 1898 | 3,669,670 | 743,460 | 4,413,130 |
| 1899 | 3,718,690 | 756,500 | 4,475,190 |
| 1900 | 3,774,710 | 770,680 | 4,545,390 |
| 1901 (Census 31 Mar.) | 3,781,537 | 772,719 | 4,554,256 |

The following table gives the net increase of male and female population in New South Wales during each year since 1891, allowance being made for the persons whose departure from the state was not formally recorded:—

| Year. | Males. | Females. | Total. |
|---|---|---|---|
| 1891 | 18,395 | 21,935 | 40,330 |
| 1892 | 13,500 | 16,100 | 29,600 |
| 1893 | 10,210 | 12,550 | 22,760 |
| 1894 | 11,330 | 13,370 | 24,700 |
| 1895 | 9,435 | 13,585 | 23,020 |
| 1896 | 7,665 | 9,035 | 16,700 |
| 1897 | 11,905 | 10,905 | 22,810 |
| 1898 | 9,725 | 11,625 | 21,350 |
| 1899 | 8,705 | 12,245 | 20,950 |
| 1900 | 8,475 | 12,035 | 20,510 |

Tested by the voluntary increase of population, the States of the Commonwealth do not present so attractive an appearance to the outside

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world as hitherto. The net increase of population due to immigration, during the ten years between the census of 1881 and that of 1891 was 373,754, but from 1891 to 1901 the increase only amounted to 9,185. During the latter period, Western Australia, with a total of 117,503, was the only state to show any substantial increase from this source. In Queensland, the increased population amounted to 21,505, and in New South Wales to 336 persons. The other three states experienced decreases during the decade, caused by excess of emigration over immigration, Victoria losing population to the extent of 111,814 persons, South Australia, 16,390, and Tasmania, 1,955 persons. The table given below shows the total increase in population of each state of the Commonwealth, and also of New Zealand, during the ten years, between the census of 1891 and that of 1901, together with a distribution between the two sources :—

| State. | Total Increase. | Natural Increase. | Net Increase due to Immigration. |
|---|---|---|---|
| New South Wales | 226,899 | 226,563 | 336 |
| Victoria | 61,101 | 172,915 | (—)111,814 |
| Queensland | 109,548 | 88,043 | 21,505 |
| South Australia | 42,173 | 58,563 | (—) 16,390 |
| Western Australia | 132,771 | 15,268 | 117,503 |
| Tasmania | 25,808 | 27,763 | (—) 1,955 |
| Commonwealth | 598,300 | 589,115 | 9,185 |
| New Zealand | 146,061 | 117,419 | 28,642 |
| Australasia | 744,361 | 706,534 | 37,827 |

The sign (—) indicates decrease.

From this table it is apparent that the tide of immigration to Australia has diminished considerably of late years, and this is especially remarkable with regard to New South Wales and Victoria. In the ten years from 1881 to 1891, the population of New South Wales was increased to the extent of 162,828 persons by immigration, while Victoria showed an increase of 116,361. From 1891 to 1901, New South Wales had an increase by immigration of only 336, while the population of Victoria was decreased, by emigration, to the extent of 111,814 persons. There is no doubt that a large percentage of the population lost to these two states by emigration, has been absorbed by Western Australia, and this accounts for the abnormal increase shown by that state. The despatch of troops to South Africa by the various states has caused the emigration returns to be unduly inflated, and of the total number sent from the Commonwealth, New South Wales furnished by far the largest proportion of any one state. The introduction of bubonic plague to the shores of New South Wales, at the end of 1899, militated against immigration and doubtless assisted to augment the total of emigrants. Since 1860, the year following the

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separation of Queensland, the arrivals in New South Wales have in every year, 1862 and 1896 alone excepted, exceeded the departures. The greatest apparent excess during any one year was in 1883, when the number of arrivals was greater than the departures by 27,278.

Assisted immigration dates from 1832. From that year until the practical cessation of the system in 1888, it was, with slight interruptions, the settled policy of New South Wales to grant assistance to desirable persons who wished to make their home in the state. In the 1893 edition of this book will be found a statement showing the increase by assisted immigration up to that year. During 1894 the assisted immigrants arriving in the state numbered 67, of whom 13 were adult males, 28 adult females, 18 male children, and 8 female children; during 1895, 37 persons, of whom 2 were adult males, 16 adult females, 12 male children, and 7 female children; during 1896, 17 persons, of whom 8 were adult males, 3 adult females, 3 male children, and 3 female children; during 1897, 35 persons, of whom 6 were adult males, 11 adult females, 8 male children, and 10 female children; during 1898, 5 persons, of whom 1 was an adult male, 2 were adult females, and 2 male children; during 1899, 9 persons, of whom 3 were adult males, 4 adult females, 1 male child, and 1 female child; while during 1900 there were no assisted immigrants. It may be explained that the persons still assisted in making their way to the state are brought out in terms of a promise made to emigrants while the system of assisted immigration was in force, namely, that if any members of a family choosing to remain behind should afterwards desire to follow their friends to their new home, they should be assisted to emigrate on the same terms. To the end of 1900, the assisted immigrants who arrived in the State numbered 211,972, viz., 76,849 men, 81,929 women, 27,257 boys, and 25,937 girls. Of these, 77,325 have arrived since the year 1861, viz., 28,941 men, 29,096 women, 9,771 boys, and 9,517 girls.

The arrivals in and departures from the state by sea during the last ten years, making due allowance for those unrecorded, were as shown in the table below :—

| Year. | Arrivals. | | | Departures (making allowance for those unrecorded). | | |
|---|---|---|---|---|---|---|
| | Males. | Females. | Total. | Males. | Females. | Total. |
| 1891 | 47,019 | 22,900 | 69,919 | 39,567 | 17,182 | 56,749 |
| 1892 | 41,570 | 20,627 | 62,197 | 39,680 | 17,711 | 57,391 |
| 1893 | 44,908 | 22,001 | 66,909 | 44,489 | 19,629 | 64,118 |
| 1894 | 49,732 | 25,856 | 75,588 | 48,490 | 23,282 | 71,772 |
| 1895 | 49,213 | 26,838 | 76,051 | 48,330 | 23,798 | 72,128 |
| 1896 | 40,683 | 21,950 | 62,633 | 44,429 | 23,459 | 67,888 |
| 1897 | 44,789 | 22,236 | 67,016 | 43,041 | 22,569 | 65,610 |
| 1898 | 49,186 | 26,340 | 75,526 | 46,946 | 24,453 | 71,399 |
| 1899 | 49,960 | 27,674 | 77,634 | 47,809 | 23,746 | 71,555 |
| 1900 | 45,585 | 23,198 | 68,783 | 45,264 | 21,934 | 67,198 |

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The record of the arrivals and departures overland for the last ten years is as follows :—

| Year. | Arrivals. | | | Departures. | | |
|---|---|---|---|---|---|---|
| | Males. | Females. | Total. | Males. | Females. | Total. |
| 1891 | 44,081 | 33,189 | 77,270 | 43,944 | 29,312 | 73,256 |
| 1892 | 40,800 | 27,455 | 68,255 | 41,098 | 27,909 | 69,007 |
| 1893 | 30,271 | 19,422 | 49,693 | 32,094 | 22,034 | 54,128 |
| 1894 | 28,872 | 18,218 | 47,090 | 30,061 | 19,925 | 49,986 |
| 1895 | 36,770 | 21,305 | 58,075 | 39,423 | 23,415 | 62,838 |
| 1896 | 41,290 | 23,456 | 64,746 | 39,314 | 24,145 | 63,459 |
| 1897 | 45,357 | 25,992 | 71,349 | 45,468 | 27,059 | 72,927 |
| 1898 | 44,340 | 25,600 | 69,940 | 45,943 | 26,336 | 72,279 |
| 1899 | 46,358 | 25,625 | 71,983 | 49,278 | 28,386 | 77,664 |
| 1900 | 51,783 | 30,747 | 82,530 | 53,647 | 31,994 | 85,641 |

## The Census of 1901.

A Census is taken in New South Wales once in ten years. The last enumeration took place on the night of Sunday, 31st March, 1901, but the detailed results are not yet available.

## Distribution of Sexes.

At the census of 1901, the males constituted 52·42 per cent., and the females 47·58 per cent. of the total population.

The distribution of the sexes has undergone little change for many years past. This will be evident from the following figures, which give the proportions of males and females to the whole population at the last five decennial censuses, and at the end of each year to 1900 :—

| Year. | Males. | Females. | Year. | Males. | Females. |
|---|---|---|---|---|---|
| 1861 | 56·57 | 43·43 | 1895 | 53·28 | 46·72 |
| 1871 | 54·67 | 45·33 | 1896 | 53·18 | 46·82 |
| 1881 | 54·86 | 45·14 | 1897 | 53·16 | 46·84 |
| 1891 | 54·14 | 45·86 | 1898 | 53·04 | 46·96 |
| 1892 | 53·83 | 46·17 | 1899 | 52·86 | 47·14 |
| 1893 | 53·66 | 46·34 | 1900 | 52·69 | 47·31 |
| 1894 | 53·51 | 46·49 | 1901 | 52·42 | 47·58 |

The excess of male over female population is chiefly at the ages from 30 onwards, and is only what is to be expected in a country the population of which has been largely recruited by immigration. It will be observed, however, that, owing to the lower death-rate of females, the disproportion between the sexes is being steadily lessened.

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## AGES OF THE PEOPLE.

The Census of 1901 has furnished full particulars with regard to the ages of the people of New South Wales at that date. The table given below shows the number of persons, male and female, at each quinquennial period of age. The males in their 21st year numbered 12,785, and the females, 13,493:—

| Ages. | Total Population. | | | Per 100,000. | |
|---|---|---|---|---|---|
| | Males. | Females. | Persons. | Males. | Females. |
| Under 5 years | 80,457 | 78,689 | 159,146 | 11,351 | 12,192 |
| 5 years and under 10 | 84,340 | 82,078 | 166,418 | 11,899 | 12,717 |
| 10 „ „ 15 | 81,702 | 80,189 | 161,891 | 11,527 | 12,424 |
| 15 „ „ 20 | 70,528 | 70,826 | 141,354 | 9,950 | 10,973 |
| 20 „ „ 25 | 62,556 | 65,034 | 127,590 | 8,825 | 10,076 |
| 25 „ „ 30 | 56,390 | 56,121 | 112,511 | 7,955 | 8,695 |
| 30 „ „ 35 | 52,679 | 46,770 | 99,449 | 7,432 | 7,246 |
| 35 „ „ 40 | 52,412 | 41,660 | 94,072 | 7,394 | 6,455 |
| 40 „ „ 45 | 45,006 | 33,413 | 78,419 | 6,349 | 5,177 |
| 45 „ „ 50 | 34,417 | 24,050 | 58,467 | 4,856 | 3,726 |
| 50 „ „ 55 | 25,707 | 19,380 | 45,087 | 3,627 | 3,003 |
| 55 „ „ 60 | 19,686 | 15,399 | 35,085 | 2,777 | 2,386 |
| 60 „ „ 65 | 15,816 | 12,234 | 28,050 | 2,231 | 1,895 |
| 65 „ „ 70 | 13,041 | 9,259 | 22,300 | 1,840 | 1,435 |
| 70 „ „ 75 | 7,798 | 5,212 | 13,010 | 1,100 | 808 |
| 75 „ „ 80 | 3,587 | 2,850 | 6,437 | 506 | 442 |
| 80 „ „ 85 | 1,892 | 1,583 | 3,475 | 267 | 245 |
| 85 „ „ 90 | 566 | 511 | 1,077 | 80 | 79 |
| 90 „ „ 95 | 177 | 138 | 315 | 25 | 21 |
| 95 „ „ 100 | 50 | 26 | 76 | 7 | 4 |
| 100 „ and over | 13 | 4 | 17 | 2 | 1 |
| Unspecified | 3,636 | 1,251 | 4,887 | ..... | ..... |
| All ages | 712,456 | 646,677 | 1,359,133 | 100,000 | 100,000 |

It will be noticed that the age constitution of the people has materially altered since 1891. The Census of that year showed a steady fall in the population, both of males and females, from infancy to old age, the only exceptions being that the males showed increases in the periods from 20 to 25 years and from 25 to 30 years. The results of the Census of 1901 show that the largest number at any age period is found from 5 to 10 years, while the number in the first age group—under 5 years—is also exceeded by the total between 10 and 15 years. The cause of this change is to be found in the falling birth-rate, to which the author has already directed attention. It has been well known for some years that the birth-rate in this state was declining, and the results—now clearly indicated by the above table—command the serious consideration of all thoughtful people.

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## Supporting, Military, and Reproductive Ages.

Assuming that males from 20 to 60 years of age are capable of supporting themselves, it will be found that New South Wales possessed at the last census period no less than 348,169 males of that desirable class, or 49·21 per cent. of the male population, excluding aborigines. There were but 42,771 males of 60 years of age and over, representing only 6·05 per cent. of the total male population; while the remaining 316,502 males, forming 44·74 per cent., were under 20 years of age. The number of males from 20 to 40 years—the military age, that is, the age of those upon whom the first call for the defence of the country would naturally be made—was 223,652, equal to 31·62 per cent. of the male population.

From 15 to 45 years of age is usually considered the reproductive period of life in females. There were at the census date 313,323 such females in New South Wales, or 48·55 per cent. of the female population.

## Birthplaces of the People.

Of the 1,354,846 people, exclusive of 4,287 aborigines, who composed the population of New South Wales when the Census was taken in 1901, the birthplaces of all but 1,438 were recorded. But of those who failed to state the place of their nativity, 1,407 had British, and 31 had foreign names. The following table shows the birthplaces of the population :—

| Birthplaces. | Males. | Females. | Total. |
|---|---|---|---|
| *British Empire.* | | | |
| Australasia— | | | |
| New South Wales | 487,039 | 490,137 | 977,176 |
| Victoria | 30,358 | 25,661 | 56,019 |
| Queensland | 7,097 | 7,871 | 14,968 |
| South Australia | 11,981 | 10,078 | 22,059 |
| Western Australia | 450 | 437 | 887 |
| Tasmania | 3,722 | 3,855 | 7,577 |
| New Zealand | 5,425 | 5,164 | 10,589 |
| Australia (State not defined) | 239 | 229 | 468 |
| United Kingdom— | | | |
| England | 76,187 | 49,930 | 126,117 |
| Wales | 2,254 | 1,368 | 3,622 |
| Scotland | 18,566 | 12,151 | 30,717 |
| Ireland | 30,463 | 29,482 | 59,945 |
| European Possessions | 98 | 52 | 150 |
| Asiatic Possessions— | | | |
| India | 2,270 | 507 | 2,777 |
| Others | 267 | 65 | 332 |
| African Possessions— | | | |
| South Africa | 276 | 193 | 469 |
| Mauritius | 167 | 89 | 256 |
| Others | 26 | 9 | 35 |

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| Birthplaces. | Males. | Females. | Total. |
|---|---|---|---|
| *British Empire*—continued. | | | |
| American Possessions— | | | |
| Dominion of Canada | 820 | 243 | 1,063 |
| West Indies | 289 | 69 | 358 |
| Others | 53 | 28 | 81 |
| Polynesian Possessions | 252 | 180 | 432 |
| Total, British Empire | 678,299 | 637,798 | 1,316,097 |
| *Foreign Countries.* | | | |
| European Countries (including Possessions out of Europe)— | | | |
| German Empire | 6,390 | 2,326 | 8,716 |
| France and Possessions | 1,590 | 539 | 2,129 |
| Russia | 1,022 | 240 | 1,262 |
| Austria-Hungary | 594 | 73 | 667 |
| Spain and Possessions | 67 | 39 | 106 |
| Portugal and Possessions | 190 | 10 | 200 |
| Switzerland | 363 | 91 | 454 |
| Netherlands and Possessions | 205 | 29 | 234 |
| Belgium | 104 | 34 | 138 |
| Denmark and Possessions | 1,151 | 217 | 1,368 |
| Turkey | 60 | 21 | 81 |
| Greece | 357 | 35 | 392 |
| Other Balkan States | 480 | 276 | 756 |
| Sweden and Norway | 3,010 | 180 | 3,190 |
| Italy | 1,243 | 335 | 1,578 |
| Europe (country not defined) | 1 | 1 | 2 |
| Asiatic Countries— | | | |
| Chinese Empire | 9,890 | 103 | 9,993 |
| Japan | 161 | 17 | 178 |
| Others | 86 | 4 | 90 |
| African Countries | 49 | 44 | 93 |
| American Countries— | | | |
| United States | 2,156 | 908 | 3,064 |
| Others | 181 | 85 | 266 |
| Polynesia | 347 | 40 | 387 |
| Total, Foreign Countries | 29,697 | 5,647 | 35,344 |
| At Sea— | | | |
| British Names | 1,080 | 863 | 1,943 |
| Foreign Names | 20 | 4 | 24 |
| Unspecified— | | | |
| British Names | 886 | 521 | 1,407 |
| Foreign Names | 23 | 8 | 31 |
| Total Population (exclusive of Aborigines) | 710,005 | 644,841 | 1,354,846 |

A comparison of the racial composition of the people at the last four Census periods is afforded by the table given below. It will be seen that in the course of the thirty years from 1871 to 1901, the proportion of Australasian-born to the total population advanced from

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61·23 per cent. to 80·52 per cent., while that of the persons born in the British Isles declined from 34·27 per cent. to 16·28 per cent. :—

| Nationality. | 1871. | 1881. | 1891. | 1901. |
|---|---|---|---|---|
| | per cent. | per cent. | per cent. | per cent. |
| New South Wales | 58·55 | 62·16 | 64·58 | 72·20 |
| Other Australian States and New New Zealand | 2·68 | 5·94 | 7·56 | 8·32 |
| English | 17·38 | 14·36 | 13·29 | 9·32 |
| Irish | 12·53 | 9·24 | 6·68 | 4·43 |
| Scotch | 3·99 | 3·35 | 3·28 | 2·27 |
| Welsh | 0·37 | 0·41 | 0·45 | 0·26 |
| Other British Subjects | 0·39 | 0·50 | 0·44 | 0·44 |
| Total, British Subjects | 95·89 | 95·96 | 96·28 | 97·24 |
| Chinese | 1·43 | 1·36 | 1·17 | 0·74 |
| German | 1·32 | 1·01 | 0·85 | 0·64 |
| Other Foreigners | 1·08 | 1·44 | 1·52 | 1·23 |
| Total, Foreigners | 3·83 | 3·81 | 3·54 | 2·61 |
| Born at sea | 0·28 | 0·23 | 0·18 | 0·15 |

Of the Australasian natives living within New South Wales when the 1901 Census was taken, 448,163 were adults, the birthplaces of whom were as follow :—

| Birthplace. | Males. | Females. | Total. |
|---|---|---|---|
| New South Wales | 182,470 | 188,989 | 371,459 |
| Victoria | 22,454 | 18,225 | 40,679 |
| Queensland | 3,586 | 4,222 | 7,808 |
| South Australia | 7,854 | 6,235 | 14,089 |
| Western Australia | 189 | 185 | 374 |
| Tasmania | 3,071 | 3,107 | 6,178 |
| New Zealand | 3,776 | 3,498 | 7,274 |
| Australia (State undefined) | 155 | 147 | 302 |
| Commonwealth | 223,555 | 224,608 | 448,163 |

The question of the Chinese and other alien races is elsewhere discussed in this chapter.

## Centralisation of Population.

One of the most notable problems in the progress of modern civilisation is the tendency of the population, everywhere exhibited in the chief countries of the world, to accumulate in great cities. Not only is this apparent in England, France, and other countries where the development

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of manufactures has brought about an entire change in the employments of the people, and has necessarily caused the aggregation of workers in towns, but it is seen also in the United States, the most favoured country for the agricultural labourer. It is noticed, too, that in all new countries there is a tendency for immigrants to locate themselves in and near the great cities, and the State of New South Wales is no exception to the rule.

As far back as 1861, when the native-born population amounted to only 45·69 per cent. of the inhabitants of the state, the number living in Sydney and suburbs formed only 42·13 per cent. of the metropolitan population; while British-born colonists, forming 46·18 per cent. of the inhabitants of the state, constituted 52·93 per cent. of the dwellers in the city and environs. In 1891 the native-born formed 64·76 per cent. of the total population, but the proportion of native-born resident in the metropolitan area had risen to 58·63 per cent., and the proportion of British-born had declined to 30·51 per cent. Of late years, natives of the other states who have been attracted to New South Wales have shown no decided preference for either the metropolis or the rural districts; but such slight difference as exists is in favour of town life. The non-British population have, as a rule, preferred the country districts to Sydney. Latterly, however, there has been a tendency on the part of certain foreign elements to gravitate towards the chief city. This is especially noticeable amongst Chinese and Hindoos, as well as in the case of Syrians and others from the Levant.

The conditions of progress in the Australian Commonwealth approximate somewhat to those of the United States, and a comparison between the increase of town population there and in New South Wales is not without interest. The great defect in the comparison arises from the fact that in America there exist many large cities, while in New South Wales there is practically only one. The population of the United States for four periods, and the proportion of rural to city population, will be seen below :—

| Year. | Population of the United States. | Population of Cities of United States. | Percentage of Urban to Total Population. |
|---|---|---|---|
| 1860 | 31,443,321 | 5,072,256 | 16·13 |
| 1870 | 38,558,371 | 8,071,875 | 20·93 |
| 1880 | 50,155,783 | 11,318,547 | 22·57 |
| 1890 | 63,622,250 | 18,284,385 | 29·20 |

The rapid increase of city population shown above has given rise to considerable speculation. It seems an established fact that the movement of population towards the towns in the old countries of the world is a sign of the desire of the rural population for an improvement in their circumstances; for, like every other commodity, labour gravitates



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to the market where it will obtain the highest price. In America the increase in town population has been derived mainly from abroad; and there seems no reason to suppose that, large as the proportion of urban population has become, it has reached an unhealthy stage. In Australasia, however, the case is different, and it is impossible to believe that healthy progress is consistent with the wonderful growth of the metropolis at the expense of the country. Over 57 per cent. of the increase due to immigration in New South Wales during the period 1881–91 was retained in the metropolis. In this state the proportion of town population is even more remarkable than in the United States, as will be seen from the table here given, showing the percentage of population of Sydney and suburbs and of the country districts :—

| Year. | Metropolitan. | Country. |
|---|---|---|
| | per cent. | per cent. |
| 1861 | 26·70 | 73·30 |
| 1871 | 26·73 | 73·27 |
| 1881 | 30·34 | 69·66 |
| 1891 | 34·47 | 65·53 |
| 1901 | 35·90 | 64·10 |

For the neighbouring state of Victoria, the corresponding figures are :—

| Year. | Metropolitan. | Country. |
|---|---|---|
| | per cent. | per cent. |
| 1861 | 25·89 | 74·11 |
| 1871 | 28·87 | 71·13 |
| 1881 | 32·81 | 67·19 |
| 1891 | 42·49 | 57·51 |
| 1901 | 41·12 | 58·88 |

In the table of urban population of the United States on page 945 are included all towns exceeding 8,000 inhabitants; nevertheless, the proportion to the whole is much less there than in either New South Wales or Victoria, where only the chief city has been taken. The case of Melbourne is even more marked than that of Sydney; for during the forty years covered by the table the growth of Melbourne at the expense of the rural districts has been proportionately greater than the growth of Sydney, and up to the year 1892 its actual numerical increase was also greater. During the ten years from 1881 to 1891 the proportion of metropolitan population in New South Wales had increased to the extent of 4·13 per cent., but during the last ten years the rate of increase has moderated somewhat, and the proportion is

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now only 1·43 per cent. more than in 1891. The following figures represent the population of the city and suburbs of Sydney and of Melbourne at the end of each year :—

| Year. | Sydney. | Melbourne. | Year. | Sydney. | Melbourne. |
|---|---|---|---|---|---|
| 1861 | 95,596 | 139,860 | 1896 | 452,560 | 451,110 |
| 1871 | 136,483 | 206,780 | 1897 | 462,700 | 458,610 |
| 1881 | 237,300 | 296,347 | 1898 | 472,190 | 469,680 |
| 1886 | 308,270 | 389,512 | 1899 | 481,510 | 477,790 |
| 1891 | 400,650 | 491,942 | 1901 (Census) | 487,900 | 494,129 |

The population of Sydney includes only the city and those suburbs immediately surrounding it; had the ten-mile radius been taken as in the case of Melbourne, the population would have numbered 521,197.

The extraordinary progress of these cities has no parallel amongst the cities of the Old World. Even in America the rise of the great cities has been accompanied by a somewhat corresponding increase in the rural population. In the Australian States, however,—perhaps for the first time in the history of the world—is seen the disquieting spectacle of magnificent cities growing with wonderful rapidity, and embracing within their limits one-third of the population of the territory of which they are the centre. The chief cities of the other Australian States present somewhat similar features to Sydney and Melbourne; but, with the exception of Adelaide, which contains more than two-fifths of the whole population of South Australia, they are not so large in proportion to their rural population.

The one satisfactory feature in connection with the growth of the chief cities of Australasia is that, in spite of their inordinate size when compared with the population of the states, they have not grown by the process of absorbing the rural population. This question was fully discussed by the author in his report upon the last census of New South Wales, and it may suffice to repeat here that the growth of the Australian cities is due mainly to the physical configuration of the continent, which makes no other mode of development possible—for here are no great rivers with leagues of navigable waterway stretching into the heart of the country far remote from the seaports. To some extent the growth of cities has also been favoured by the commercial development of the states. For many years wool-growing has been the staple industry of the country; and while the actual tending of flocks needs few hands, and those widely scattered, the handling of bales of wool at a convenient place of shipment demands all the resources of a great commercial centre. Also, gold-digging, to which the states owe so much, is not an industry likely to promote permanent settlement in the interior. The miner of the past was in every respect a nomad: if successful in his quest after the precious metal, he became an emigrant to the Old World or a sojourner in an Australian capital.

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The population of the capital cities of the Australian States and of New Zealand at the Census of 1901 is given below :—

| City. | Population, 31st March, 1901. |
|---|---|
| Sydney | 487,900 |
| Melbourne | 494,129 |
| Brisbane | 119,428 |
| Adelaide | 162,261 |
| Perth | 36,199 |
| Hobart | 32,418 |
| Wellington | 24,096 |

Wellington, the capital of New Zealand, is not the most populous city in that colony ; Auckland, Christchurch, and Dunedin, all contain larger populations.

Sydney stands alone amongst Australian cities for convenience of position and natural advantages for external and internal trade, and the progress it has made in wealth and population has not been less than expectation warranted. At the Census of 1861 the population of the whole metropolis was 95,789 ; ten years later it had risen to 137,776 ; in 1881 the number had reached 224,939 ; at the Census of 1891, 383,283 ; and in 1901 the population was 487,900. The growth of the city and suburbs and of the country districts may be traced in the following table, showing the estimated population on the 31st December of each year, and at the Census of 1901 :—

| Year. | Metropolitan. | | | Country. | New South Wales. | | |
|---|---|---|---|---|---|---|---|
| | City. | Suburbs. | Total. | | Males. | Females. | Total. |
| 1870 | 75,498 | 59,085 | 134,578 | 364,081 | 272,543 | 226,116 | 498,659 |
| 1875 | 85,287 | 78,808 | 164,075 | 490,222 | 323,080 | 271,217 | 594,297 |
| 1880 | 99,683 | 124,203 | 223,886 | 524,064 | 409,224 | 338,726 | 747,950 |
| 1885 | 122,910 | 169,640 | 292,550 | 657,020 | 523,030 | 426,540 | 949,570 |
| 1890 | 111,960 | 268,060 | 380,040 | 741,820 | 609,650 | 512,210 | 1,121,860 |
| 1891 | 108,185 | 292,465 | 400,650 | 761,540 | 628,045 | 534,145 | 1,162,190 |
| 1892 | 108,720 | 305,090 | 413,810 | 777,980 | 641,545 | 550,245 | 1,191,790 |
| 1893 | 109,130 | 314,790 | 423,920 | 790,630 | 651,755 | 562,795 | 1,214,550 |
| 1894 | 109,580 | 325,320 | 434,900 | 804,350 | 663,085 | 576,165 | 1,239,250 |
| 1895 | 110,010 | 335,130 | 445,140 | 817,130 | 672,590 | 589,750 | 1,262,270 |
| 1896 | 110,310 | 342,250 | 452,560 | 826,410 | 680,185 | 598,785 | 1,278,970 |
| 1897 | 110,730 | 351,980 | 462,700 | 839,060 | 692,090 | 609,690 | 1,301,780 |
| 1898 | 111,100 | 361,090 | 472,190 | 850,940 | 701,815 | 621,315 | 1,323,130 |
| 1899 | 111,490 | 370,020 | 481,510 | 862,570 | 710,520 | 633,560 | 1,344,080 |
| 1900 | 111,870 | 378,760 | 490,630 | 873,960 | 718,995 | 645,595 | 1,364,590 |
| 1901 (Census) | 118,207 | 369,693 | 487,900 | 871,233 | 712,456 | 646,677 | 1,359,133 |

The increase of population during the twenty years which closed with 1900 has been 119·14 per cent. in the metropolis, and 66·77 per cent. in the country districts. The population of the whole state has nearly doubled itself during this period, the total for 1900 showing an increase of 82·44 per cent. on the number in 1880.

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The incorporated area in the metropolitan district is about 143 square miles, or 91,220 acres, so that the average density of population on the 31st March, 1901, was 5·35 persons per acre, some of the more immediate suburbs being more densely populated than the city itself. The area of land permanently dedicated for public recreation in the metropolis is 3,973 acres (including the Centennial Park, the area of which is about 530 acres), equal to more than one-thirtieth of the total extent of the district, which must certainly be looked upon as a very liberal provision for the maintenance of public health. This is quite apart from the National Park, an area of 36,810 acres, which is within an hour's journey by train of the city; and of the Ku-ring-gai Chase, 35,300 acres in extent, which has recently been reserved for public recreation in the valley of the Hawkesbury. The area of Melbourne and suburbs is 162,660 acres, or about 254 square miles, and the population at the date of the Census of 1901 was 494,129; this shows a density of population of 3·04 persons to the acre. The area reserved as public recreation grounds within the boundary of Melbourne and suburbs is 5,329 acres.

The suburbs of Sydney comprise forty-one distinct municipalities, the population of which, at the dates of the censuses of 1891 and of 1901, will be found below:—

| Municipality. | Population 5th April, 1891. | Population 31st Mar., 1901. | Municipality. | Population 5th April, 1891. | Population 31st Mar., 1901. |
|---|---|---|---|---|---|
| Alexandria | 7,505 | 9,341 | Leichhardt | *12,092 | 17,454 |
| Annandale | 4,975 | 8,349 | Manly | 3,236 | 5,035 |
| Ashfield | 11,697 | 14,329 | Marrickville | 13,507 | 18,775 |
| Balmain | 23,479 | 30,076 | Marsfield | 525 | 713 |
| Bexley | ..... | 3,079 | Mosman | 1,460 | 5,691 |
| Botany | 2,060 | 3,393 | Newtown | 17,870 | 22,596 |
| Botany, North | 2,407 | 3,772 | North Sydney | *15,646 | 22,040 |
| Burwood | 6,227 | 7,521 | Paddington | 18,392 | 21,984 |
| Camperdown | 6,658 | 7,931 | Petersham | 10,369 | 15,307 |
| Canterbury | 2,426 | 4,226 | Randwick | 6,236 | 9,753 |
| Concord | 2,107 | 2,818 | Redfern | 21,322 | 24,219 |
| Darlington | 3,465 | 3,784 | Rockdale | 4,906 | 7,857 |
| Drummoyne | 1,451 | 2,843 | Ryde | *1,800 | 3,222 |
| Enfield | 2,050 | 2,497 | St. Peter's | 4,860 | 5,906 |
| Erskineville | 5,275 | 6,059 | Strathfield | 1,820 | 2,991 |
| Five Dock | 1,250 | 1,401 | Vaucluse | 870 | 1,152 |
| Glebe | 17,075 | 19,220 | Waterloo | 8,701 | 9,609 |
| Hunter's Hill | 3,633 | 4,232 | Waverley | 8,842 | 12,342 |
| Hurstville | 3,175 | 4,019 | Willoughby | *2,886 | 6,004 |
| Kogarah | 2,328 | 3,892 | Woollahra | *9,153 | 12,351 |
| Lane Cove | 925 | 1,918 | | | |

* Within present limits.

The population of the city of Sydney, exclusive of shipping, at the date of the Census of 1901 was 112,137.

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At the same date there were 148 boroughs and municipal districts outside the metropolis. The population of each of these will be found below:—

| Country Municipalities. | Population. | Country Municipalities. | Population. | Country Municipalities. | Population. |
|---|---|---|---|---|---|
| Aberdeen | 749 | Grafton, South | 976 | Orange, East | 2,341 |
| Adamstown | 2,420 | Granville | 5,094 | Parkes | 3,181 |
| Albury | 5,824 | Grenfell | 869 | Parramatta | 12,560 |
| Armidale | 4,249 | Greta | 861 | Peak Hill | 1,107 |
| Auburn | 2,948 | Gulgong | 1,579 | Penrith | 3,533 |
| Ballina | 1,819 | Gundagai | 1,487 | Picton | 1,050 |
| Balranald | 741 | Gunnedah | 1,910 | Plattsburg | 3,177 |
| Bankstown | 1,246 | Hamilton | 6,124 | Port Macquarie | 1,169 |
| Bathurst | 9,223 | Hay | 3,012 | Prospect and Sherwood | 3,259 |
| Bega | 1,898 | Hill End | 643 | Queanbeyan | 1,219 |
| Berry | 1,990 | Hillgrove | 2,437 | Quirindi | 1,676 |
| Bingara | 879 | Hillston | 843 | Raymond Terrace | 823 |
| Blayney | 1,529 | Illawarra, Central | 4,664 | Richmond | 1,202 |
| Bombala | 986 | ,, North. | 3,190 | Rookwood | 4,496 |
| Bourke | 2,609 | Ingleburn | 362 | Scone | 1,145 |
| Bowral | 1,752 | Inverell | 3,293 | Shellharbour | 1,929 |
| Braidwood | 1,551 | Jamberoo | 1,291 | Shoalhaven, South | 909 |
| Brewarrina | 683 | Jerilderie | 744 | Silverton | 286 |
| Broken Hill | 27,500 | Junee | 2,190 | Singleton | 1,913 |
| Broughton Vale | 322 | Katoomba | 2,270 | ,, South | 955 |
| Burrowa | 839 | Kempsey | 2,329 | Smithfield and Fairfield | 1,643 |
| Cabramatta and Canley Vale | 980 | Kiama | 1,769 | St. Mary's | 1,840 |
| Camden | 1,719 | Lambton | 3,159 | Stockton | 2,549 |
| Campbelltown | 2,152 | ,, New | 1,578 | Tamworth | 5,799 |
| Carcoar | 578 | Lismore | 4,378 | Taree | 871 |
| Carrington | 2,547 | Lithgow | 5,268 | Temora | 1,603 |
| Casino | 1,926 | Liverpool | 3,901 | Tenterfield | 2,604 |
| Castlereagh | 609 | Maclean | 1,333 | Tumut | 1,391 |
| Cobar | 3,371 | Maitland, East | 3,284 | Ulladulla | 1,765 |
| Condobolin | 1,078 | ,, West | 6,784 | Ulmarra | 1,722 |
| Cooma | 1,938 | Merewether | 4,547 | Uralla | 681 |
| Coonamble | 1,680 | Mittagong | 1,210 | Wagga Wagga | 5,108 |
| Cootamundra | 2,424 | Moama | 928 | Walcha | 980 |
| Coraki | 770 | Molong | 1,254 | Wallendbeen | 736 |
| Cowra | 1,811 | Moree | 2,298 | Wallsend | 3,820 |
| Cudal | 599 | Morpeth | 1,288 | Waratah | 3,080 |
| Cudgegong | 2,985 | Moruya | 1,099 | Warialda | 875 |
| Deniliquin | 2,644 | Moss Vale | 1,385 | Warren | 1,175 |
| Dubbo | 3,409 | Mudgee | 2,789 | Wellington | 2,984 |
| Dundas | 1,087 | Mulgoa | 476 | Wentworth | 642 |
| Dungog | 1,082 | Murrumburrah | 1,448 | Wickham | 7,752 |
| Ermington and Rydalmere | 1,231 | Murrurundi | 1,235 | Wilcannia | 935 |
| Forbes | 4,294 | Musclebrook | 1,710 | Windsor | 1,026 |
| Gerringong | 1,051 | Narrabri | 2,286 | Wingham | 556 |
| Gladstone | 1,171 | ,, West | 677 | Wollongong | 3,545 |
| Glen Innes | 2,918 | Narrandera | 2,255 | Wyalong | 1,510 |
| Gosford | 751 | Narromine | 931 | Yass | 2,252 |
| Goulburn | 10,612 | Newcastle | 12,988 | Young | 2,755 |
| Grafton | 4,171 | Nowra | 1,904 | | |
| | | Nyngan | 1,455 | | |
| | | Orange | 3,990 | | |

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The great bulk of the population dwells along the seaboard. Outside the metropolis the most thickly-peopled districts are the fertile valleys of the rivers. Amongst these, in point of population, the Hunter River valley, with its large agricultural and mining industries, stands first. The Illawarra district, rich in coal and pasture, comes next; then the maize and sugar-growing country of the Clarence and the Richmond. The settlement of population originally followed the main roads of the state, and is now drawn to the great trunk lines of railway, which have almost superseded them.

## NATURALISATION.

The Acts relating to the naturalisation of foreigners in New South Wales have now been consolidated by Act No. 21, 1898, known as the "Naturalisation and Denization Act of New South Wales, 1898." The Governor or Acting Governor is empowered to grant letters of denization to such foreigners as may arrive in the state with a recommendation from the Secretary of State for the Colonies, these letters of denization entitling the holder to all the rights, privileges, and advantages in the state which a British-born citizen may claim. It is also provided that an alien in New South Wales may hold and acquire real and personal property, but shall not be qualified for any office nor enjoy either a municipal or parliamentary franchise; shall not be qualified to be the owner of a British ship; and shall not have any rights and privileges except such as are expressly conferred upon him. After a residence in the state of not less than five years a foreigner may apply for letters of naturalisation, which the Governor may or may not grant, in his option. After letters of naturalisation have been received, and the oath of allegiance has been taken, the holder becomes entitled to all the privileges which are conferred by British birth. The naturalisation of Chinese is no longer permitted. Certificates of naturalisation granted in other colonies do not confer the right of British citizenship in New South Wales.

During the period of fifty-one years extending from 1849 to 1900 there have been 7,519 letters of naturalisation taken out in New South Wales. Germans have availed themselves most largely of the privileges of naturalisation, the number of certificates issued to them amounting to nearly one-half of the total number granted, namely, 3,666. No other nationality has at all approached these figures, the Chinese, whose naturalisation, as before explained, is now prohibited, coming next with 908. The countries of Sweden and Denmark follow with 516 and 426 cases respectively; France has 302; Russia, 293; Italy, 220; Norway, 202; Switzerland, 166; Austria, 167; and the United States, 115. In the course of the year 1900 the number of foreign subjects naturalised was 320, of whom 103 were Germans, 52 were Swedes, 34 were Russians, and 32 were Danes. The following table

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shows the native countries of those who obtained certificates of naturalisation from 1849 to 1900 :—

| Native Countries. | 1849 to 1890. | 1891. | 1892. | 1893. | 1894. | 1895. | 1896. | 1897. | 1898. | 1899. | 1900. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Europe— | | | | | | | | | | | | |
| Austria | 89 | 10 | 4 | 10 | 4 | 8 | 6 | 9 | 11 | 9 | 7 | 167 |
| Belgium | 15 | ... | 2 | 1 | ... | ... | 1 | ... | 3 | ... | ... | 22 |
| Denmark | 243 | 21 | 11 | 22 | 26 | 16 | 10 | 12 | 20 | 13 | 32 | 426 |
| France | 215 | 9 | 4 | 8 | 16 | 9 | 1 | 9 | 10 | 13 | 8 | 302 |
| Germany | 2,901 | 55 | 54 | 78 | 89 | 62 | 90 | 72 | 104 | 58 | 103 | 3,666 |
| Greece | 31 | 2 | ... | 1 | ... | ... | ... | 1 | 13 | 1 | 2 | 51 |
| Holland | 62 | 2 | 1 | 1 | ... | 2 | 2 | 3 | 2 | ... | 1 | 76 |
| Italy | 126 | 8 | 13 | ... | 6 | 2 | 8 | 7 | 13 | 12 | 25 | 220 |
| Norway | 78 | 14 | 8 | 14 | 22 | 11 | 7 | 4 | 13 | 4 | 27 | 202 |
| Portugal | 32 | 1 | ... | 2 | 2 | ... | ... | 1 | ... | ... | 2 | 40 |
| Roumania | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 |
| Russia | 82 | 18 | 9 | 35 | 18 | 26 | 13 | 20 | 24 | 14 | 34 | 293 |
| Spain | 15 | 1 | ... | ... | 1 | ... | 1 | ... | ... | ... | 1 | 19 |
| Sweden | 233 | 41 | 13 | 40 | 31 | 29 | 23 | 21 | 25 | 17 | 52 | 516 |
| Switzerland | 134 | 3 | 3 | 1 | 5 | 3 | 3 | ... | 8 | 1 | 5 | 166 |
| Turkey | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 |
| America— | | | | | | | | | | | | |
| United States | 100 | 1 | 1 | 2 | 4 | 1 | 1 | ... | 3 | 1 | 1 | 115 |
| Not specified | 18 | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | 20 |
| Asia— | | | | | | | | | | | | |
| Beloochistan | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 |
| China | 908 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 908 |
| Syria | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 17 | 17 |
| Other nationalities — | | | | | | | | | | | | |
| Western islands | 18 | 1 | 1 | ... | 1 | 2 | ... | ... | ... | ... | ... | 23 |
| Not specified | 96 | 6 | 19 | 6 | 8 | 8 | 18 | 45 | 28 | 33 | ... | 267 |
| Total | 5,396 | 193 | 143 | 221 | 234 | 170 | 184 | 204 | 277 | 177 | 320 | 7,519 |

Of persons naturalised during 1900, there were 1 accountant, 2 agents, 8 bakers, 3 blacksmiths, 6 bootmakers, 1 butcher, 2 cabinetmakers, 3 caretakers, 13 carpenters, 1 clerk, 2 coachbuilders, 3 coal-lumpers, 4 contractors, 5 cooks, 1 dentist, 1 diver, 2 drapers, 5 engineers, 2 engine-drivers, 35 farmers, 2 fettlers, 1 financier, 3 firemen, 1 fish-dealer, 3 fruit-growers, 3 gardeners, 2 hairdressers, 6 hawkers, 3 hotel-keepers, 1 importer, 2 jewellers, 44 labourers, 1 manager, 6 manufacturers, 44 mariners, 1 medical practitioner, 5 merchants, 17 miners, 4 musicians, 3 painters, 1 pawnbroker, 2 railway employés, 1 restaurant-keeper, 2 selectors, 3 shipwrights, 1 stoker, 9 storekeepers, 3 storemen, 6 tailors, 1 tanner, 2 teachers, 2 wharf-labourers, and 35 others.

### Chinese Population.

The unanimity with which the Australian States have passed laws restricting the immigration of Chinese may be taken as some evidence of the undesirability of that race as colonists. At the Census of 1861 there

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were in New South Wales 12,988 Chinese. In November of that year a duty of £10 per head was imposed upon Chinese male immigrants. This continued until the month of November, 1867; and when the Census was taken in 1871 the number of Chinese in the state was found to have fallen to 7,220. In 1881 the number had risen to 10,205, and to 15,445 at the end of 1888. Since that time, however, the departures have been numerous, and only 14,156 Chinese were enumerated in April, 1891, while at the Census of 1901, the number was 10,974. For many years New South Wales offered little inducement to the Chinese as a place of settlement, the superior attractiveness of Victoria and other states as gold producers claiming their attention. At the rush to Lambing Flat in 1860, however, large numbers of Chinese came across the border and established themselves in this state, their strength being constantly recruited by fresh arrivals from China; but these Chinese did not remain in New South Wales, for, as already shown, at the Census of 1871 there were 5,768 less than ten years previously.

The numbers of Chinese who entered and left New South Wales during each year since 1875 will be found in the following table :—

| Year. | Arrivals. | Departures. | Year. | Arrivals. | Departures. |
|---|---|---|---|---|---|
| 1875 | 625 | 1,209 | 1888 | 1,848 | 1,582 |
| 1876 | 696 | 940 | 1889 | 7 | 941 |
| 1877 | 884 | 490 | 1890 | 15 | 637 |
| 1878 | 2,485 | 1,560 | 1891 | 17 | 581 |
| 1879 | 1,979 | 557 | 1892 | 21 | 755 |
| 1880 | 2,942 | 876 | 1893 | 34 | 558 |
| 1881 | 4,465 | 929 | 1894 | 76 | 627 |
| 1882 | 1,007 | 884 | 1895 | 94 | 413 |
| 1883 | 1,936 | 1,402 | 1896 | 99 | 450 |
| 1884 | 2,191 | 1,038 | 1897 | 34 | 428 |
| 1885 | 2,929 | 1,726 | 1898 | 32 | 419 |
| 1886 | 3,092 | 1,883 | 1899 | 36 | 449 |
| 1887 | 4,436 | 2,773 | 1900 | 75 | 379 |

It will be seen that 1878 and following years were marked by a large increase in the arrivals from China. The influx appeared in 1881 sufficiently formidable to demand the interference of the Legislature. Accordingly, the "Influx of Chinese Restriction Act" was passed, again imposing a poll-tax of £10, with the result that the subsequent year was marked by a decrease in the arrivals to the extent of 3,458. After that time, however, there was a steady increase until 1888, when the powers of the Legislature were again invoked to restrict the immigration of these undesirable colonists. This legislation was partly the outcome of a conference of delegates from the Australasian States which was held in Sydney in that year, and which was convened after considerable discussion had taken place upon this growing public danger. Although

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it was not deemed advisable to altogether prohibit the immigration of Chinese aliens, yet it was considered necessary that the numbers privileged to land should be so limited that an effective check would be given to the immigration of this race. The New South Wales Parliament was already considering a Bill when the conference was summoned, and ultimately the new enactment came into force in the state on the 11th July, 1888. By this measure vessels are prohibited from carrying to the state more than one Chinese passenger to every 300 tons; and Chinese landing are required to pay a poll-tax of £100; they are not to engage in mining, without express authority under the hand and seal of the Minister of Mines; nor, as before explained, are they permitted to take advantage of the Naturalisation Act. Chinese who by birth are British subjects do not come within the provisions of this restrictive legislation; but they have to pass the educational test prescribed by the Immigration Restriction Act of 1898. The penalty for a breach of the Chinese Restriction Act is £500. The Act has greatly restricted Chinese immigration, but it is believed that a number of Chinese find their way into New South Wales by way of the other states. According to the official returns of Chinese immigrants, there has been a great falling-off in the arrivals since 1888, as the following table will show :—

| Year. | Chinese arriving. | Chinese paying Poll-tax. | Year. | Chinese arriving. | Chinese paying Poll-tax. |
|---|---|---|---|---|---|
| 1885 | 2,929 | 1,060 | 1893 | 34 | 7 |
| 1886 | 3,092 | 1,284 | 1894 | 76 | 3 |
| 1887 | 4,436 | 1,798 | 1895 | 94 | 2 |
| 1888 | 1,848 | 462 | 1896 | 99 | 2 |
| 1889 | 7 | 1 | 1897 | 34 | 3 |
| 1890 | 15 | 3 | 1898 | 32 | 3 |
| 1891 | 17 | 1 | 1899 | 36 | 5 |
| 1892 | 21 | 2 | 1900 | 75 | 3 |

Information showing the number of marriages of Chinamen resident in New South Wales is not available annually, nor is it possible to ascertain the nationalities of the women who form matrimonial unions with the Chinese. The Census returns of 1891, however, showed that of the 286 Chinese then in the state whose wives were with them, 129 were married to natives of New South Wales, 29 to Victorians, 7 to wives born in Queensland, 1 to a South Australian, 4 to Tasmanians, 1 to a native of New Zealand, and 4 to wives born in Australia, the particular state not being specified. Twenty-eight Chinese were married to English women, 3 to Scotch women, 16 to Irish women, 1 to a German, and 1 to a French woman. In 60 cases the wife was a native of the Chinese Empire as well as the husband, while in the remaining 2 cases the birthplace of the wife was not stated.

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### Prevention of Influx of Coloured Races.

In 1896 the question of the influx of the alien races was deemed by Parliament to be sufficiently grave to justify it in extending the provisions of the Chinese Restriction and Regulation Act of 1888 so as to exclude from the state the coloured races of Asia and Africa and the coloured inhabitants of the islands in the Pacific and Indian Oceans. An important feature of the Bill was that it proposed to restrict the immigration of persons belonging to the inferior races whether they were or were not British subjects by birth, and the existing Act was so amended that Chinese born in British territory were shut out from free entry into the state as well as the subjects of the Chinese Emperor. The Australian aborigines and the Maoris of New Zealand were not affected by the Bill; and all persons partially of European descent were likewise unrestricted in their movements. Provision was made to allow of the admission into the state of accredited representatives of the states whose subjects were excluded under the Bill, and of missionaries, tourists, and persons travelling with the object of prosecuting scientific researches. Also, division of a family was prevented by treating wives as of the nationality of their husbands. The measure, which was termed "The Coloured Races Restriction and Regulation Act, 1896," was reserved for the assent of the Queen, but this was withheld, and new legislation was, therefore, introduced for the purpose of attaining the same object in a different way. The Immigration Restriction Act of 1898 was accordingly passed, and was assented to on the 3rd August, in that year. This Act, which came into force three months after the Royal assent was proclaimed, prohibits the immigration into New South Wales of any person who, when asked to do so by a properly-appointed officer, should fail to write out in some European language, and sign, an application to the Colonial Secretary, in a specified form. It does not, however, apply to persons in possession of a certificate of exemption, to His Majesty's land and sea forces, to the officers and crew of any foreign man-of-war, to the officers and crew of any other vessel landing during the stay of the vessel in a New South Wales port, and to persons duly accredited to the Government of the state. In some of the other states of the group the educational test has likewise been adopted for the restriction of the immigration of coloured aliens.

In addition to the measures already quoted, the Parliament of the Commonwealth has now under consideration two bills regulating the admission of undesirable immigrants. These measures are termed respectively the Pacific Islands Labourers' Bill and the Immigration Restriction Bill. The former is particularly directed against the continued employment of kanakas on the sugar plantations of Queensland, and provides that: No Pacific Island labourer shall enter Australia on or after 31st March, 1904; that none shall enter before that date except

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under a license; and that all agreements under the Pacific Island Labourers Acts, 1880–1892, of Queensland shall terminate on 31st December, 1906. Licenses may be granted during 1902 to the number of not more than three-fourths, and in 1903 to not more than one-half the number of those labourers returned to their native islands during the preceding year. The Immigration Restriction Act provides for the exclusion of any person who, when asked to do so by an officer of the Customs, fails to write out and sign a passage of fifty words in some European language. The Act does not apply, however, to persons in possession of certificates of exemption, to His Majesty's land and sea forces, the master and crew of any public vessel of any Government, any person duly accredited by any Government, a wife accompanying her husband if he is not a prohibited immigrant, all children under 18 years of age accompanying their father or mother—if they are not prohibited immigrants—and any person who satisfies an officer that he has formerly been domiciled in the Commonwealth.

### ABORIGINES.

This name, signifying "from the origin," was given to the earliest known inhabitants of Italy, but it is now applied to the original or primitive inhabitants of any country. As the history of the native race in these States is so entwined with the progress of the British people in Australia, a few words concerning them may not be out of place. The aborigines of Australia form a distinct race, and it may be presumed that the whole of them throughout the continent sprang from the same stock, although it is remarkable that their languages differ so greatly that tribes within short distances are often quite unable to understand each other, and in fact almost every large community of natives has its own peculiar dialect. It is difficult to form a correct estimate of the numbers of the aborigines; but while there is reason to believe that some generations ago they were very numerous, there is ample evidence of late years that in many places they are decreasing, and they may now be counted by fives where they were formerly counted by hundreds. In Tasmania they have disappeared altogether, the last of the tribe in that state having died in 1876.

It is recorded that Governor Phillip estimated the aboriginal population about the close of the last century at one million; the number between Broken Bay and Botany Bay appearing to have been about 3,000. It is impossible to say how far this estimate was in accordance with fact; for although at the time it did not probably seem an exaggerated conjecture in the face of so large a number as 3,000 having been found within the small area between the bays above mentioned, yet considering how small a portion of the territory was then explored by the early settlers, the statement must be accepted as what it professes to be, namely, an estimate at a time when the data to hand were very limited.

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The original inhabitants of New Zealand, or Maoris, as they are called, are quite a different race. They are gifted with a considerable amount of intelligence, are quick at imitation, and brave even to rashness; on the other hand, they are avaricious, and ofttimes ferocious. Their numbers are not diminishing to any considerable extent, as during the last twenty years the decrease had been only 1,247. According to the Census of 1881, they numbered 44,097. At the Census of 1886 there were 41,432; in 1891 the total was found to be 41,993, and in 1896 it was 39,854, while in 1901 the number was 42,850. It is believed that at the time the colonists first landed the number of Maoris in the country was fully 120,000.

According to the Census of 1901, there were 4,287 aborigines in New South Wales, this total including half-castes in a nomadic state. The number of aborigines under the control of the Aborigines Protection Board at the end of the year 1900 was 6,901, of whom 3,108 were full-bloods and 3,793 half-castes. This shows a decrease on the return for the end of 1899 of 95 full-bloods and an increase of 114 half-castes. The number of births reported during 1900 was 238 (165 of the children being half-castes), and the number of deaths, 199 (59 half-castes). These figures show a net increase in the aboriginal population, instead of a decrease. The deficiency unaccounted for is probably due to the difficulty experienced by the police in making a correct enumeration, owing to the migratory habits of the aborigines, and to the border tribes crossing into the other states. There are seven mission stations. These establishments, when first formed, were little more than camping grounds for the aborigines, where the blacks worked for their rations, and elementary instruction was imparted to the children; but now they have developed into settlements, with greatly improved huts for married couples, and adequate accommodation for teaching, duly qualified instructors having been appointed by the Department of Public Instruction. At the end of 1900 there were 797 full-blood aborigines and half-castes living at the mission stations, and on the same date 659 aboriginal children were receiving instruction in schools or privately. During the year a sum of £17,849 was expended on the aborigines. There are altogether in the state 133 reserves for the aborigines, the total area being 24,791 acres. At the Census of 1891, 8,280 aborigines were enumerated; but the decrease is not so great as would appear, as a large number of half-castes were excluded from the returns in 1901. The total number of aborigines, excluding all half-castes, at the Census of 1901 was 7,434, but of this number 3,147 half-castes who were living in comparative civilisation have been excluded, and the number given, 4,287, includes only full-blooded aborigines and those half-castes who were members of wandering tribes.

It has been the misfortune of the aboriginal of Australia, as it was of the Carribee, the North American Indian, and the Hottentot, to be found in the way of European colonisation; and the black has not seen the white man take possession of his territory without many an

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attempt, by deeds of cunning and of blood, to stop the invasion and to avenge the injury. It would be easy to gather from the records of British colonisation in Australia many instances of horrible crimes committed by the aborigines, who are, in fact, partakers of the worst passions of human nature. But it must not be forgotten that, amongst the people of British origin who settled upon the land formerly occupied by the blacks alone, were many whose crimes against the aborigines at least equalled in atrocity any committed by that unfortunate race. Cunning and ferocity were the natural concomitants of such a struggle; and the remembrance of what cunning and ferocity have done tends to make the colonists slow to recognise any characteristics of an opposite kind in the blacks. There is, however, evidence from the songs and cherished traditions of the aborigines,* that they are by no means destitute of some qualities in which civilised men glory—such as the power of inventing tragic and sarcastic fiction, the thirst for religious mystery, stoical contempt of pain, and reverence for departed friends and ancestors. The manner in which they have displayed these characteristics presents such a strange mixture of wisdom and folly, of elevating and degrading thoughts, of interesting and repulsive traditions, of pathetic and grotesque observances, that in order to account for the apparent contradictions recourse must be had to the supposition that this race has descended from an ancient and higher civilisation, of which its people have retained some memorials.

* *Vide* Kamilaroi and other Australian Languages, by Rev. W. Ridley, M.A.

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# VITAL STATISTICS.

## Marriage Laws.

THE law relating to marriages is contained in four Acts of Parliament, the principal of which is Act 19 Vic. No. 30, "An Act to Amend and Consolidate the Laws affecting the solemnization of Marriage." This Act determines that the marriage ceremony is to be performed by an officiating minister duly registered for that purpose; but it is provided that, in cases where the contracting parties conscientiously object to a religious ceremony, or where the services of a minister are not available, they may sign a declaration to that effect, and be married by a District Registrar. The Act further provides for the signing of a declaration by both parties to the effect that they believe there is no impediment in the way of or lawful objection to their marriage on account of relationship, former marriage, want of consent in case of minors, or on other grounds. The written consent of the father must be produced by a minor, or should the father not reside in New South Wales, of the mother or guardian, and in the absence of these, of a magistrate specially appointed "to give consent to the marriage of minors." The marriage ceremony is to be celebrated in the presence of two witnesses. Penalties for wilfully marrying minors, or for aiding and abetting in doing so, are imposed, the maximum being a fine of £500, or imprisonment for five years. Forgery in connection with forms of consent, etc., is punishable with five years' hard labour or hard labour on the roads.

Act 19 Vic. No. 34, "An Act for Registering Births, Deaths, and Marriages," provides for the registration of officiating ministers, and for the transmission by them to the District Registrars of copies of certificates. District Registrars are to forward these copies to the General Registry Office, where they are indexed for future reference. Act 42 Vic. No. 5, the "Clergy Returns Transfer Act," provided for the handing over to the General Registry Office of registers previously kept by certain of the clergy. Act 55 Vic. No. 34, the "Marriages Validation and Marriage Law Amendment Act," validated marriages, celebrated after the passing of Act 19 Vic. No. 30, in which the required declaration had not been signed, and provided that the declaration should from that time be endorsed on the back of the marriage certificate, omission to do so being made punishable as a misdemeanour.

## Marriages.

Up to the year 1891 the increase in the number of marriages celebrated in New South Wales was remarkably steady, very few checks being experienced; indeed, during the eleven years extending from 1875

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to 1886 the progress was uninterrupted. But in 1892, despite the growth of population, there was a heavy fall in the number, and this decline continued until 1895, when the figures again took an upward movement, evidencing the existence of a feeling in the community that the clouds of depression were gradually lifting from the state. An examination of the annual marriage rates given below will show that a settled tendency to fall was exhibited between 1883 and 1894, the rate declining from 8·83 to 6·25 per 1,000 of the population during the eleven years. In 1895, however, as already remarked, an improvement took place, and in 1897 the marriage rate of the State was the highest experienced since 1892. From 1897 onwards, as the table shows, there has been a still further improvement, the rate in 1900 standing at 7·38, which is only slightly below that of 1891. The figures for the last twenty-two years are given below :—

| Year. | Marriages registered. | Per 1,000 of mean population. | Year. | Marriages registered. | Per 1,000 of mean population. |
|---|---|---|---|---|---|
| 1879 | 5,391 | 7·80 | 1891 | 8,457 | 7·41 |
| 1880 | 5,572 | 7·65 | 1892 | 8,022 | 6·82 |
| 1881 | 6,284 | 8·21 | 1893 | 7,749 | 6·44 |
| 1882 | 6,948 | 8·70 | 1894 | 7,666 | 6·25 |
| 1883 | 7,405 | 8·83 | 1895 | 8,030 | 6·42 |
| 1884 | 7,482 | 8·47 | 1896 | 8,495 | 6·69 |
| 1885 | 7,618 | 8·22 | 1897 | 8,813 | 6·83 |
| 1886 | 7,811 | 8·06 | 1898 | 8,988 | 6·77 |
| 1887 | 7,590 | 7·55 | 1899 | 9,275 | 6·95 |
| 1888 | 7,844 | 7·57 | 1900 | 9,996 | 7·38 |
| 1889 | 7,530 | 7·06 | | | |
| 1890 | 7,876 | 7·15 | Mean for 20 years | | 7·28 |

The year 1883 was distinguished by a high marriage-rate not only in New South Wales, but in most of the other Commonwealth States as well. In Queensland, New South Wales, South Australia, and Tasmania the rates then recorded have not been exceeded since that time ; on the contrary, with the exception of an individual year here and there, a steady tendency to fall was exhibited until recently. As in the other countries of the world, the marriage-rate in Australasia is an index to the state of general prosperity, evincing, however, an eagerness to anticipate an improvement in industrial conditions, and a reluctance to accept the evidences of the approach of times of depression. Probably the year 1883 marked the end of a long period of lavish public expenditure, reducing the number of those who were in a position to take upon their shoulders the responsibilities of married life—the inability to enter into the married state being confirmed later on by the bad years of which the states had experience. In addition to the four states mentioned, New Zealand also had its highest marriage rate

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of recent years about the same time, namely, in 1884, after which year the rate likewise steadily declined. In Western Australia the rate has fluctuated considerably. So recently as 1891 it was higher than in any year since 1868; but the heavy immigration of males who had left their women folk behind them greatly affected the marriage-rate of the state during the last few years.

For the year 1900 the average marriage-rate per 1,000 of population in the whole of Australasia was 7·31, the rate for the Commonwealth being 7·20, and, for New Zealand, 7·67. The rate of New South Wales was, as already stated, 7·38; that of Victoria, was 6·96; of Queensland, 6·67; of South Australia, 6·45; of Western Australia, 10·14; of Tasmania, 7·49; and of New Zealand, 7·67. The average annual rate for the Commonwealth during the last ten years was 6·69 per 1,000 of population, and, for Australasia, 6·68. The state with the smallest average rate during the decade is South Australia, and Western Australia has the highest average rate for the same period, New South Wales coming next in order. The marriage rate of Victoria for the period was below the average for the Commonwealth. From 1861 to 1886 the rate of New South Wales was consistently higher than that of the southern state. During the next five years, however, Victoria had the advantage, only to lose it in 1892, since which year New South Wales has again had the higher rate.

For the ten years ended 1900 the states which had a marriage-rate above the Australasian average were:—

| | | | |
|---|---|---|---|
| Western Australia | 9·16 | per 1,000 of population. | |
| New South Wales | 6·80 | ,, | ,, |

Those which had a lower rate were:—

| | | | |
|---|---|---|---|
| Queensland | 6·59 | ,, | ,, |
| Victoria | 6·54 | ,, | ,, |
| Tasmania | 6·39 | ,, | ,, |
| South Australia | 6·25 | ,, | ,, |

The rate for New Zealand, 6·64, was also below the Australasian average.

A comparison of the marriage-rates of various countries is apt to be misleading, on account of the different conditions of life prevailing therein. Thus, in comparing the Australian rate with the rates of foreign countries, it has to be borne in mind that, on the one hand, the superior condition of the working classes and the preponderance of unmarried adult males in the colonies favour a high marriage-rate; while, on the other hand, the migratory habits of a large part of the male population often occasion a certain amount of extravagance and selfishness, and tend, therefore, to a diminution of the rate. Below will be found the average marriage-rates of a number of European countries for the twenty years, 1871–90, and the annual rates for the years 1891 to 1899. The figures, which are taken from the reports of the Registrar-General of England, show that in Europe, as in New South Wales, the course of the



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marriage-rate has been directed upward during the last five or six years :—

| Country. | Average of 20 years, 1871-90. | 1891. | 1892. | 1893. | 1894. | 1895. | 1896. | 1897. | 1898. | 1899. |
|---|---|---|---|---|---|---|---|---|---|---|
| United Kingdom ..... | 7·2 | 7·3 | 7·3 | 7·0 | 7·1 | 7·2 | 7·5 | 7·6 | 7·7 | 7·9 |
| England and Wales.. | 7·8 | 7·8 | 7·7 | 7·4 | 7·5 | 7·5 | 7·9 | 8·0 | 8·2 | 8·3 |
| Scotland ..... | 7·0 | 7·0 | 7·1 | 6·6 | 6·7 | 6·9 | 7·2 | 7·4 | 7·6 | 7·7 |
| Ireland ..... | 4·5 | 4·6 | 4·7 | 4·7 | 4·7 | 5·0 | 5·0 | 5·0 | 5·0 | 4·9 |
| Denmark ..... | 7·6 | 6·8 | 6·8 | 7·0 | 6·9 | 7·1 | 7·3 | 7·5 | 7·6 | 7·5 |
| Norway ..... | 6·9 | 6·6 | 6·4 | 6·4 | 6·4 | 6·5 | 6·7 | 6·7 | 7·0 | 7·2 |
| Sweden..... | 6·6 | 5·8 | 5·7 | 5·7 | 5·7 | 5·8 | 6·0 | 6·1 | 6·1 | 6·3 |
| Austria..... | 8·2 | 7·7 | 7·8 | 7·9 | 7·9 | 8·1 | 8·0 | 8·0 | 7·8 | 8·2 |
| Hungary ..... | 9·6 | 8·6 | 9·2 | 9·3 | 9·3 | 8·5 | 8·0 | 8·1 | 8·3 | 9·0 |
| Switzerland..... | 7·4 | 7·1 | 7·4 | 7·4 | 7·4 | 7·5 | 7·8 | 8·1 | 7·8 | 7·8 |
| German Empire ..... | 8·2 | 8·0 | 7·9 | 7·9 | 7·9 | 7·5 | 8·2 | 8·4 | 8·4 | 8·6 |
| Prussia..... | 8·4 | 8·2 | 8·1 | 8·1 | 8·1 | 8·0 | 8·3 | 8·4 | 8·5 | 8·7 |
| Netherlands..... | 7·6 | 7·1 | 7·2 | 7·3 | 7·2 | 7·4 | 7·5 | 7·4 | 7·3 | 7·4 |
| Belgium ..... | 7·1 | 7·5 | 7·7 | 7·6 | 7·5 | 7·7 | 8·1 | 8·2 | 8·3 | 8·2 |
| France ..... | 7·7 | 7·4 | 7·5 | 7·5 | 7·5 | 7·4 | 7·6 | 7·6 | 7·6 | 7·5 |
| Italy ..... | 7·8 | 7·6 | 7·5 | 7·5 | 7·5 | 7·4 | 7·1 | 7·3 | 7·0 | 7·4 |

In 1899 the marriage-rate in England and Wales was 8·3 per thousand; in Scotland, 7·7 per thousand; and in Ireland, 4·9; the general rate for the United Kingdom being 7·9 per thousand.

### Illiteracy displayed by Marriage Registers.

The number of persons signing the marriage register with marks has steadily declined for many years past. In 1871 the proportion of signatures made with marks was as high as 16·96 per cent. of the whole, while in 1900 the percentage had fallen to 1·45, the decrease in illiteracy being, therefore, highly satisfactory. As will be seen from the table appended, the greatest proportion of signatures affixed by means of marks has always been supplied by the country districts; but in the country, as well as in the metropolis, illiteracy, as disclosed by the marriage registers, has greatly decreased, the percentage in 1900 being only 1·71 for the country and 1·13 for the metropolis, as compared with 18·92 and 13·50 respectively in 1871 :—

| Year. | Metropolis. | Country Districts. | New South Wales. | Year. | Metropolis. | Country Districts. | New South Wales. |
|---|---|---|---|---|---|---|---|
| 1871 | 13·50 | 18·92 | 16·96 | 1894 | 1·26 | 2·43 | 1·90 |
| 1876 | 6·54 | 16·71 | 10·47 | 1895 | 1·61 | 2·49 | 2·09 |
| 1881 | 5·05 | 8·34 | 6·94 | 1896 | 1·67 | 2·59 | 2·19 |
| 1886 | 2·89 | 5·00 | 3·98 | 1897 | 1·19 | 1·75 | 1·50 |
| 1891 | 2·26 | 3·78 | 3·08 | 1898 | 1·50 | 1·90 | 1·72 |
| 1892 | 2·35 | 3·63 | 3·06 | 1899 | 0·94 | 1·78 | 1·42 |
| 1893 | 1·50 | 2·67 | 2·16 | 1900 | 1·13 | 1·71 | 1·45 |

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The amount of illiteracy, as displayed by inability to sign the marriage register in the proper manner, was for many years greater amongst females than amongst males, the returns showing that this was the case in every year during the period from 1871 to 1887. This order of things has now been reversed, 1894 being the only year of the last eleven which has exhibited a greater proportion of mark signatures by females. From this it would appear that women are now quite on a par with men in the acquirement of the rudiments of education; furthermore, it may be pointed out that many women refrain from signing their names in the marriage register, not from inability to write, but from sheer nervousness. In 1871 the number of women who were unable to sign their names amounted to nearly one-fifth of the whole number married, but the proportion had fallen to 1·4 per cent. in 1900. During the same period the male illiterates fell from 14·5 per cent. to 1·5 per cent. of the number of males married :—

| Year. | Males signing with marks, per thousand. | Females signing with marks, per thousand. | Year. | Males signing with marks, per thousand. | Females signing with marks, per thousand. |
|---|---|---|---|---|---|
| 1871 | 145 | 194 | 1894 | 19 | 20 |
| 1876 | 96 | 114 | 1895 | 22 | 20 |
| 1881 | 55 | 84 | 1896 | 23 | 20 |
| 1886 | 38 | 42 | 1897 | 16 | 14 |
| 1891 | 32 | 29 | 1898 | 18 | 17 |
| 1892 | 33 | 28 | 1899 | 16 | 12 |
| 1893 | 23 | 20 | 1900 | 15 | 14 |

## Solemnisation of Marriages.

Of every hundred marriages celebrated in New South Wales, about ninety-seven are solemnised by the clergy (including those officiating at Matrimonial Agencies). The actual figures for 1900 show that during that year 9,729 marriages were solemnised by clergy and 267 witnessed by registrars, giving the proportions of 97·33 per cent. and 2·67 per cent. respectively of the total number of 9,996.

The Church of England celebrates the largest number of marriages, the Roman Catholic Church coming next, followed by the Methodist and Presbyterian Churches. After these, the most marriages are celebrated in certain institutions termed "Matrimonial Agencies," which have come into existence during the last few years. In 1900, there were 1,035 marriages celebrated at these agencies, or 10·35 per cent. of the total.

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The table below shows the number of marriages celebrated during 1900 by each denomination, and the percentage which each division bears to the total :—

| Denomination. | No. of Marriages. | Percentage of total Marriages. |
|---|---|---|
| Church of England | 3,429 | 34·30 |
| Roman Catholic | 1,964 | 19·65 |
| Presbyterian | 1,211 | 12·11 |
| Wesleyan and Primitive Methodist | 1,356 | 13·57 |
| Congregational | 348 | 3·48 |
| Baptist | 149 | 1·49 |
| Hebrew | 27 | 0·27 |
| Other Denominations | 210 | 2·10 |
| Matrimonial Agencies | 1,035 | 10·36 |
| Registrars' Offices | 267 | 2·67 |

The following table shows the number of marriages registered by the principal denominations during the last five years :—

| Denomination. | 1896. | 1897. | 1898. | 1899. | 1900. |
|---|---|---|---|---|---|
| Church of England | 2,979 | 3,130 | 3,125 | 3,248 | 3,429 |
| Roman Catholic | 1,553 | 1,562 | 1,717 | 1,741 | 1,964 |
| Presbyterian | 964 | 1,021 | 1,091 | 1,093 | 1,211 |
| Wesleyan Methodist | 944 | 938 | 922 | 935 | 1,095 |
| Primitive Methodist | 199 | 251 | 226 | 298 | 261 |
| United Methodist Free Church | 19 | 23 | 70 | 23 | 28 |
| Lay Methodist | 14 | 17 | 18 | 9 | 14 |
| Baptist | 159 | 121 | 139 | 167 | 149 |
| Independent Baptist | ..... | ..... | 31 | ..... | ..... |
| Congregational | 295 | 338 | 383 | 353 | 348 |
| German Evangelical, Lutheran | 15 | 20 | 22 | 30 | 21 |
| Bible Christian | 17 | 31 | 28 | 23 | 6 |
| Christian, Church of Christ | 12 | 14 | 21 | 19 | 38 |
| Catholic Apostolic Church | 1 | 3 | 2 | 1 | ..... |
| Society of Friends (Quakers) | 1 | ..... | ..... | ..... | 1 |
| Swedenborgian, New Church | 1 | ..... | ..... | ..... | ..... |
| Gospel Temperance Church | 2 | ..... | ..... | ..... | ..... |
| Salvation Army | 47 | 40 | 38 | 48 | 59 |
| Unitarian | 5 | 6 | 11 | 4 | 1 |
| Hebrew | 30 | 20 | 28 | 27 | 27 |
| Other Sects | 23 | 18 | 30 | 53 | 51 |
| Matrimonial Agencies | 856 | 948 | 745 | 1,002 | 1,035 |
| District Registrars | 359 | 312 | 241 | 201 | 267 |
| Total Marriages | 8,495 | 8,813 | 8,888 | 9,275 | 9,996 |

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## AGE AT MARRIAGE.

The ages of bridegrooms and brides are given below for the 9,996 couples married in 1900. An examination of the figures shows that in 76·2 per cent. of the marriages the husband was older than the wife; in 8·7 per cent. the ages of the contracting parties were the same; while in the remaining 15·1 per cent. of the unions the wife was older than the husband. The results of a tabulation of the respective ages of bridegrooms and brides are shown in the following table:—

| Ages of Bridegrooms. | Ages of Brides. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Under 18. | 18. | 19. | 20. | 21 and under 25. | 25 and under 30. | 30 and under 35. | 35 and under 40. | 40 and under 45. | 45 and under 50. | 50 and over. | Total. |
| Under 18 years..... | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 |
| 18 years..... | 8 | 6 | 5 | 2 | .. | .. | .. | .. | .. | .. | .. | 21 |
| 19 „ ..... | 26 | 26 | 13 | 12 | 18 | 4 | .. | .. | .. | .. | .. | 99 |
| 20 „ ..... | 23 | 31 | 34 | 29 | 50 | 5 | 1 | .. | .. | .. | .. | 173 |
| 21 and under 25 .... | 220 | 254 | 317 | 321 | 1,484 | 305 | 34 | 7 | 2 | .. | .. | 2,944 |
| 25 and under 30 .... | 117 | 129 | 203 | 244 | 1,435 | 1,013 | 151 | 41 | 5 | .. | .. | 3,343 |
| 30 and under 35 .... | 32 | 34 | 44 | 77 | 543 | 608 | 269 | 76 | 17 | .. | 3 | 1,703 |
| 35 and under 40 .... | 9 | 12 | 20 | 19 | 199 | 272 | 173 | 110 | 36 | 10 | .. | 860 |
| 40 and under 45 .... | 3 | 2 | 4 | 6 | 65 | 115 | 78 | 88 | 53 | 18 | 4 | 436 |
| 45 and under 50 .... | .. | 2 | 1 | 3 | 12 | 38 | 36 | 36 | 34 | 21 | 8 | 191 |
| 50 and over ..... | .. | 2 | .. | 1 | 8 | 23 | 25 | 40 | 34 | 45 | 47 | 225 |
| Total ..... | 439 | 498 | 646 | 714 | 3,814 | 2,383 | 767 | 398 | 181 | 94 | 62 | 9,996 |

Since 1897 information has been collected respecting age at marriage, and the average for the sexes during the last four years will be found in the following table. It has been computed that in the fifteen years prior to 1898 the average age for males was approximately two years higher, and for females one year higher:—

| Year. | Average age of Males. | Average age of Females. |
|---|---|---|
| | Years. | Years. |
| 1897 | 29·37 | 24·92 |
| 1898 | 29·53 | 24·99 |
| 1899 | 29·31 | 24·98 |
| 1900 | 28·74 | 24·56 |

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A record is kept of the number of minors, namely, persons under 21 years of age, married in the state, and the figures for the last ten years are appended:—

| Year. | Minors. | | Percentage of— | |
|---|---|---|---|---|
| | Bride-grooms. | Brides. | Bride-grooms. | Brides. |
| 1891 | 177 | 2,085 | 2·09 | 24·65 |
| 1892 | 177 | 1,889 | 2·21 | 23·55 |
| 1893 | 177 | 1,993 | 2·28 | 25·72 |
| 1894 | 167 | 1,905 | 2·18 | 24·85 |
| 1895 | 207 | 1,942 | 2·58 | 24·18 |
| 1896 | 212 | 2,065 | 2·50 | 24·31 |
| 1897 | 274 | 2,156 | 3·11 | 24·46 |
| 1898 | 242 | 2,110 | 2·72 | 23·74 |
| 1899 | 262 | 2,202 | 2·82 | 23·74 |
| 1900 | 294 | 2,297 | 2·94 | 22·98 |

It is a curious fact that, although there is evidence that the average age at marriage of both males and females has been gradually increasing, the percentage of bridegrooms and brides who are minors does not show any corresponding signs of decrease.

During the year 1900 there were registered in New South Wales:—

| Marriages between— | |
|---|---|
| Bachelors and Spinsters | 8,734 |
| ,, Widows | 419 |
| ,, Divorced Women | 57 |
| Widowers and Spinsters | 541 |
| ,, Widows | 174 |
| ,, Divorced Women | 17 |
| Divorced Men and Spinsters | 37 |
| ,, Widows | 13 |
| ,, Divorced Women | 4 |
| Total | 9,996 |

Similar information for the ten years extending from 1891 to 1900 shows that out of every 10,000 marriages celebrated in the state, there will be between—

| | |
|---|---|
| Bachelors and Spinsters | 8,685 |
| ,, Widows | 459 |
| ,, Divorced Women | 59 |
| Widowers and Spinsters | 492 |
| ,, Widows | 242 |
| ,, Divorced Women | 14 |
| Divorced Men and Spinsters | 36 |
| ,, Widows | 9 |
| ,, Divorced Women | 4 |
| Total | 10,000 |

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## Duration of Life after Marriage.

Although the ages of the parties contracting marriage are not demanded by law, and the marriage registers prior to 1897 are generally silent upon this point, yet the information may be obtained indirectly from the death registers, which contain many interesting particulars relating to the life of the person whose death is recorded; and from the information thus obtained it is possible to establish the average duration of life after marriage. Tables giving detailed information on this subject will be found in the *Annual Report on Vital Statistics*; for this volume the appended figures, which relate to the seven years 1893–99, and which deal with 20,088 married males and 18,539 married females whose ages both at the time of marriage and of death were known, must suffice. It has not been deemed advisable to deal with the marriages of males under the eighteenth or over the fiftieth year, and with those of females under the fifteenth or over the forty-third year, as the figures are too small to possess any significance:—

| Age at Marriage. | Period lived after Marriage. | | Age at Marriage. | Period lived after Marriage. | | Age at Marriage. | Period lived after Marriage. | |
|---|---|---|---|---|---|---|---|---|
| | Males. | Females. | | Males. | Females. | | Males. | Females. |
| years. | years. | years. | years. | years. | years. | years. | years. | years. |
| 15 | ... | 40·6 | 27 | 30·2 | 31·2 | 39 | 25·3 | 27·6 |
| 16 | ... | 39·0 | 28 | 29·6 | 31·3 | 40 | 30·2 | 26·8 |
| 17 | ... | 35·2 | 29 | 29·4 | 29·3 | 41 | 25·2 | 25·8 |
| 18 | 38·6 | 35·1 | 30 | 31·7 | 33·0 | 42 | 23·2 | 28·7 |
| 19 | 38·6 | 32·2 | 31 | 27·0 | 28·8 | 43 | 24·4 | 21·3 |
| 20 | 37·4 | 33·0 | 32 | 27·1 | 27·5 | 44 | 24·3 | ... |
| 21 | 35·0 | 29·7 | 33 | 28·2 | 28·9 | 45 | 24·0 | ... |
| 22 | 34·3 | 31·0 | 34 | 27·4 | 29·7 | 46 | 20·5 | ... |
| 23 | 32·2 | 30·0 | 35 | 28·9 | 30·0 | 47 | 20·0 | ... |
| 24 | 30·9 | 30·3 | 36 | 29·1 | 26·6 | 48 | 21·9 | ... |
| 25 | 32·3 | 32·0 | 37 | 28·3 | 29·1 | 49 | 20·2 | ... |
| 26 | 29·1 | 29·0 | 38 | 28·7 | 27·8 | 50 | 23·0 | ... |

These averages must not be taken as representing the expectation of life of persons marrying at each of the ages set down. This expectation of life of married persons has not been accurately established, although the requisite data are available. So far as the investigation has proceeded, however, it confirms the popular opinion that the length of lifetime of married persons exceeds that of the unmarried, both female and male. The excess in favour of the married appears to be a trifle short of 5½ years for females up to age 40, and about the same for males up to age 45. After these years the difference lessens, and almost disappears at the extreme ages.

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## Fecundity of Marriages.

The death records of New South Wales show the issue, both living and dead, of the deceased. During the seven years 1893–99 there died 21,716 married males and 19,501 married females. The children of these men numbered 114,218, giving an average of 5·41 to each married man; and the registrations of death showed that of these children 44,303 males and 42,169 females were alive, and 14,854 males and 12,892 females were dead. The total issue of the married women numbered 101,008 children, or an average of 5·26 to each woman; and of this number, 37,548 male and 36,160 female children were alive, and 14,492 male and 12,808 female children were dead. An analysis of the figures shows that at each age at marriage the average number of children resulting from the unions was as set down below. It is necessary to state that in cases where the deceased was married more than once, the age at the first marriage only is noted in the table, while the total family, whether the fruit of one or of more than one marriage, is included. The records only reveal ten children as the issue of women who married after reaching the age of 45 :—

| Age at Marriage. | Average number of Children resulting from marriage of— | | Age at Marriage. | Average number of Children resulting from marriage of— | | Age at Marriage. | Average number of Children resulting from marriage of— | |
|---|---|---|---|---|---|---|---|---|
| | Males. | Females. | | Males. | Females. | | Males. | Females. |
| years. | | | years. | | | years. | | |
| 14 | ... | 6·24 | 31 | 4·68 | 3·09 | 48 | 3·04 | 0·17 |
| 15 | ... | 7·32 | 32 | 4·80 | 2·61 | 49 | 3·02 | ... |
| 16 | ... | 7·34 | 33 | 5·18 | 2·75 | 50 | 2·28 | ... |
| 17 | 6·38 | 7·13 | 34 | 4·59 | 2·43 | 51 | 1·64 | ... |
| 18 | 6·42 | 6·59 | 35 | 4·65 | 2·22 | 52 | 2·09 | ... |
| 19 | 7·08 | 6·47 | 36 | 4·79 | 1·68 | 53 | 1·46 | ... |
| 20 | 6·45 | 6·16 | 37 | 4·65 | 1·53 | 54 | 0·97 | ... |
| 21 | 6·53 | 5·74 | 38 | 4·63 | 1·08 | 55 | 1·47 | ... |
| 22 | 6·42 | 5·51 | 39 | 4·36 | 1·15 | 56 | 1·27 | ... |
| 23 | 6·16 | 5·24 | 40 | 4·05 | 0·76 | 57 | 0·47 | ... |
| 24 | 6·05 | 5·14 | 41 | 3·68 | 0·70 | 58 | 1·20 | ... |
| 25 | 6·01 | 4·67 | 42 | 3·26 | 0·77 | 59 | 0·53 | ... |
| 26 | 5·59 | 4·37 | 43 | 3·54 | 0·67 | 60 | 1·82 | ... |
| 27 | 5·73 | 4·42 | 44 | 3·39 | 0·17 | Not stated | 3·00 | 3·04 |
| 28 | 5·56 | 3·95 | 45 | 3·57 | 0·30 | | | |
| 29 | 5·45 | 3·73 | 46 | 2·97 | 0·06 | | | |
| 30 | 5·16 | 3·56 | 47 | 3·03 | 0·14 | Average.. | 5·41 | 5·26 |

The difference between the numbers of children born to the males and to the females is explained by the larger number of second marriages contracted by men. If it were not for this fact, the average in both cases would, of course, be the same.

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The average number of children born to a marriage in each of the Commonwealth States and New Zealand, during the decennial period 1891-1900, is shown below:—

| State. | Average number of Children per marriage. | State. | Average number of Children per marriage. |
|---|---|---|---|
| New South Wales... | 4·79 | Tasmania ..... | 5·74 |
| Victoria ..... | 4·39 | Commonwealth ... | 4·96 |
| Queensland ..... | 5·86 | New Zealand ..... | 3·87 |
| South Australia..... | 4·35 | Australasia... | 4·92 |

The ordinary empirical formula in use amongst statisticians, *i.e.*, dividing the number of births in any year by the marriages occurring in the seventh previous year, has been employed in obtaining these averages. There is no doubt that the formula gives somewhat too high an average for these states, although it works out correctly enough when applied to more settled countries. The average for Western Australia is 13·91, which is palpably too high, and is accounted for by the fact that the large increase of population in that state during the last eight years has unduly increased the number of births to be compared with the marriages of the seventh previous year. The average number of children to a marriage in the United Kingdom during the ten years 1890–99 was:—

| | |
|---|---|
| England and Wales ..... | 4·09 |
| Scotland ..... | 4·36 |
| Ireland ..... | 4·83 |

The figures for Ireland are exceptionally high, which is somewhat surprising, as the average age of persons marrying there is much higher than in Australia. The lowest number of children born to a marriage in any of the important European countries is in France, where the average for the ten years 1890–99 was only 2·92.

A further tabulation has been made with the object of showing the average number of children who survive their parents in families of various sizes. It will be seen from the subjoined table that in every group the number of children surviving their fathers appears larger than the number surviving their mothers. This is due to the more frequent

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re-marriages of fathers, the children resulting from all marriages being included in the table :—

| Number of Children in Family. | Number of Children out of 100 Families who will survive— | |
|---|---|---|
| | their Father. | their Mother. |
| 1 | 86 | 82 |
| 2 | 164 | 157 |
| 3 | 242 | 230 |
| 4 | 319 | 303 |
| 5 | 392 | 380 |
| 6 | 463 | 446 |
| 7 | 539 | 528 |
| 8 | 611 | 584 |
| 9 | 678 | 659 |
| 10 | 745 | 707 |
| 11 | 817 | 796 |
| 12 | 865 | 821 |
| 13 | 932 | 851 |
| 14 | 949 | 894 |
| 15 | 1,036 | 1,028 |
| 16 and more | 1,065 | 946 |

The average number of children who survive one of their parents is four.

The influence which the ages of husband and wife exert on the birth-rate is a subject which has attracted a great deal of attention, and was discussed in the course of an investigation made by the author during 1899 into the phenomena attending childbirth, the results of which were recently published in a pamphlet entitled "Childbirth in New South Wales, A Study in Statistics." The results arrived at there were based on the legitimate confinements, numbering 177,582, during the five years 1893–7, and the estimated relative numbers of husbands and wives of each age for the mean of that period. Births of ante-nuptial conception, which are rather numerous, especially among women of the lower ages, and which would have unduly tended to exaggerate the fertility of women of those ages, were excluded from the discussion, and it was then

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found that the probability of a birth in the course of a year, per 100 couples of specified ages, was as follows :—

| Age of Husband. | Age of Wife. | | | | | |
|---|---|---|---|---|---|---|
| | 20 | 25 | 30 | 35 | 40 | 45 |
| 25 | 27·6 | 30·0 | 28·3 | ..... | ..... | ..... |
| 30 | 26·5 | 28·8 | 27·0 | 24·6 | ..... | ..... |
| 35 | ..... | 28·6 | 26·9 | 24·7 | 18·5 | ..... |
| 40 | ..... | 27·7 | 25·6 | 24·1 | 19·1 | 6·8 |
| 45 | ..... | 25·0 | 22·4 | 21·4 | 17·0 | 6·5 |
| 50 | ..... | ..... | 19·9 | 18·9 | 14·6 | 5·7 |
| 55 | ..... | ..... | ..... | 18·2 | 13·5 | 5·0 |
| 60 | ..... | ..... | ..... | ..... | 11·7 | 3·9 |

The age of the wife is by far the more important factor in determining the birth-rate. As that advances, it is seen that there is a sharp decline in the probability of birth at each quinquennial period of life, except from the 20th to the 25th years, during which period, namely, at the 23rd year, it was found that a woman attains the summit of her fertility. The results of the investigation, permitted of the following conclusions being drawn :—First, that husbands up to age 47 have the greater chance of becoming fathers, the younger the wives (23 years, however, being the minimum age-limit in regard to which it is possible to speak with certainty). Husbands between 47 and 65 have also the greatest chance with the younger wives; but information in regard to such husbands was available only for those with wives of 28 years of age and upwards. Second, that wives up to the age of 35 have the greater chance of becoming mothers, the younger the husband, although with husbands between the ages of 28 and 36 the chance is practically the same. Wives from age 35 up to the limit of child-bearing age have the greatest chance with husbands of their own age.

From an investigation into the natality statistics of Budapest, by Körösi, the distinguished Hungarian Statistician, Mr. F. Galton deduced the law that there is a constant number from which, if the united ages of the parents be subtracted, the difference approximates to the number per cent. of parents to whom children will be born during one year, but the present investigation showed that Galton's law does not hold in New South Wales, nor does any analogous law obtain. The general law governing natality is, undoubtedly, that, with one exception, the younger

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the parents the greater the probability of a birth. The exception is with wives approaching, and at the limit of, child-bearing age. A woman about the limit of child-bearing possesses a greater chance of becoming a mother with a husband of or about her own age. For instance, with a woman whose age is between 40 and 45, the annual natality per cent. with a husband between 25 and 30 is 10·0, whilst with a husband of between 40 and 45 it is 12·7 per cent., declining rapidly until with a husband whose age is between 65 and 70, it is only 4·3 per cent.; and similarly with women between 45 and 50.

## Divorces.

The grounds on which divorces and judicial separations are granted in New South Wales will be found set forth in the chapter entitled "Law and Crime." Since the passing of the existing Act of 1892, by which the grounds of divorce were greatly increased, the business of the Divorce Court has grown enormously; indeed, so much has this been the case that out of a total of 3,529 petitions for divorce and 294 for judicial separation presented to the Court from 1873 to the end of 1900, no less than 2,871 petitions for divorce and 226 for judicial separation were presented in the course of the last nine years. Of the 3,529 petitions for divorce—1,135 of which were presented *in forma pauperis*—137 were dismissed and 713 were not proceeded with to the 31st December, 1900. In the remaining 2,679 cases, decrees *nisi* were granted, of which 2,405 had been made absolute, and 274 had not been made absolute to the end of the year mentioned. Of the 294 petitions for judicial separation, 12 were dismissed, 140 were not proceeded with, and the remaining 142 were granted. During the period of twenty-eight years there were only 27 petitions for nullity of marriage. Of these, 4 were not proceeded with, 1 was dismissed, and the remaining 22 were granted. Of 16 petitions for restitution of conjugal rights, 1 was dismissed and 11 were not proceeded with. In only two cases were decrees *nisi* granted, and both of these had been made absolute to 31st December, 1900.

In the 2,679 successful suits for divorce the husband was the petitioner in 867, and the wife in 1,812 cases; in the 142 suits for judicial separation the husband was the petitioner in 11, and the wife in 131 cases; while of the 22 decrees for nullity of marriage 14 were granted at the suit of the husband, and 8 at the suit of the wife. The total number of decrees granted at the instance of the husband was, therefore, 892; and at the instance of the wife, 1,951. Of every 100 decrees granted in the state, the wife has been the petitioner in 69, and the husband in 31 cases.

In three out of every ten successful divorce petitions, relief is sought on more than one ground, and to give a statement of the grounds as they are set forth in the petitions would be to enter into possibly unnecessary detail. The appended table, therefore, only shows the more important

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grounds, chief amongst which are adultery, cruelty, desertion, and habitual drunkenness :—

| Grounds of Suit. | Divorces (Decrees *Nisi*) Granted. | Judicial Separation Granted. | Decrees of Nullity of Marriage Granted. | Total. |
|---|---|---|---|---|
| Adultery | 928 | 22 | ..... | 950 |
| ,, (Incestuous) | 3 | 1 | ..... | 4 |
| ,, and cruelty, desertion | 303 | 21 | ..... | 324 |
| ,, and habitual drunkenness, etc. | 29 | 3 | ..... | 32 |
| ,, repeated assaults, and cruel beatings.. | 6 | 1 | ..... | 7 |
| Bigamy and adultery, cruelty, desertion | 32 | ..... | 12 | 44 |
| Cruelty | ..... | 50 | ..... | 50 |
| ,, and attempt to murder by administering poison. | 1 | ..... | ..... | 1 |
| ,, and desertion, habitual drunkenness, etc. | 198 | 5 | ..... | 203 |
| Desertion | 1,029 | 5 | ..... | 1,034 |
| ,, and frequent convictions for crime ... | 1 | ..... | ..... | 1 |
| ,, and habitual drunkenness, etc. | 34 | ..... | ..... | 34 |
| ,, and imprisonment for three years and upwards. | 2 | ..... | ..... | 2 |
| Habitual drunkenness and neglect to support, etc. | 68 | 11 | ..... | 79 |
| Impotency | 1 | ..... | 2 | 3 |
| Imprisonment for three years and upwards | 16 | ..... | ..... | 16 |
| Lunacy of petitioner | ..... | ..... | 1 | 1 |
| Non-consummation of marriage | 1 | ..... | 7 | 8 |
| Repeated assaults and cruel beatings | 27 | 2 | ..... | 29 |
| By consent, without admissions | ..... | 21 | ..... | 21 |
| Total | 2,679 | 142 | 22 | 2,843 |

Of the 2,679 divorce decrees granted up to the end of 1900, 928 were grounded on the act of adultery, 3 on incestuous adultery, and 32 on adultery with bigamy, the respondent having broken the law by going through a form of marriage, making altogether a total of 963 decrees ; and if to this number be added those cases in which adultery was allied with habitual drunkenness, cruelty, desertion, &c., or with any two or more of these grounds, no less than 1,301 decrees are obtained, or 48·6 per cent. of the total number. Desertion is a common cause of dissolution of marriage. On this ground alone, as many as 1,029 decrees, or 38·4 per cent. of the total, were granted ; and the details disclose the fact that in 533 other cases in which divorce was granted the petitioner had been deserted by the respondent. A divorce cannot be granted on the ground of cruelty alone, but there were decrees granted in 540 cases in which cruelty was alleged, along with other grounds. Habitual drunkenness was included as a reason for divorce in 329 cases, in 68 of which it was the principal ground on which the petition was based ; in 232 cases it was allied with cruelty, desertion, or neglect to support, and in the other 29 cases with adultery or other reasons ; so that, altogether, habitual drunkenness entered into 12·3 per cent. of the total number, 2,679, of divorces granted.

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Of the 2,843 marriages which resulted in divorce or judicial separation, or which were nullified, the great majority were celebrated in the Commonwealth, and nearly four-fifths in New South Wales alone. The actual number celebrated in this state was 2,266, or 79·7 per cent. of the total number; and in all Australasia, 2,605, or 91·6 per cent. Of the other 238 marriages, 198, or 7·6 per cent. of the whole number, took place in the United Kingdom, namely, 169 in England, 8 in Wales, 11 in Scotland, and 10 in Ireland. The countries where the other marriages were celebrated will be found in the following table :—

| Marriages celebrated in— | Divorces and Judicial Separations. | Marriages celebrated in— | Divorces and Judicial Separations. |
|---|---|---|---|
| New South Wales | 2,266 | Cape Colony | 3 |
| Victoria | 143 | Transvaal | 1 |
| Queensland | 75 | Mauritius | 1 |
| South Australia | 30 | Canada | 3 |
| Western Australia | 1 | Denmark | 1 |
| Tasmania | 21 | Italy | 1 |
| New Zealand | 69 | France and New Caledonia | 5 |
| England | 169 | Germany | 2 |
| Wales | 8 | Russia | 2 |
| Scotland | 11 | United States | 8 |
| Ireland | 10 | Country not stated | 1 |
| Fiji | 3 | | |
| Hongkong | 1 | Total | 2,843 |
| India | 8 | | |

Although the Roman Catholic Church does not recognise divorce, yet a considerable number of marriages solemnised according to the rites of that Church have been dissolved by the law. Still, the figures are by no means large when they are viewed in connection with the number of broken marriages which had been celebrated by denominations whose adherents form much smaller proportions of the population of the State. Thus, out of the 2,843 divorces, judicial separations, and petitions for nullity of marriage granted to the end of 1900, only 287 of the marriages had been solemnised by the Roman Catholic Church, while the Church of England had solemnised 1,155; the Presbyterians, 450; and the Wesleyan and other Methodist Churches, 288. The Congregational Church had celebrated 212 of the marriages; the Baptist, 54; the Hebrew, 20; and other denominations, 55; while the ceremony in 288 cases had been performed at a Registrar's office, and in the remaining 34 cases the Church was not stated.

Of the 2,821 couples who were divorced or judicially separated, and the 22 couples whose marriage was declared null, 280, or 9·8 per cent. of the total of 2,843, had been married for a period of less than 5 years; 953, or 33·5 per cent. of the whole number, had been married for periods ranging from 5 to 10 years; 795, or 28·0 per

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cent., between 10 and 15 years; and 448, or 15·8 per cent., between 15 and 20 years. In no less than 296 cases the duration of the marriage was between 20 and 30 years; while in 71 cases the period was even greater, extending, indeed, over 40 years in the case of 9 couples. Marriages of long duration are, therefore, just as liable to be severed by the Divorce Court as those of shorter length. Nor does the possession of a family deter the aggrieved party from seeking redress at law; for in one case the children numbered 15; in two cases, 14; in one case, 13; in three cases, 12; in eight cases, 11; in six cases, 10; in twenty-four cases, 9; in twenty-five cases, 8; in thirty-four cases, 7; in sixty-seven cases, 6; in ninety-eight cases, 5; in 151 cases, 4; in 287 cases, 3; in 477 cases, 2; while in 656 cases there was one child born to the marriage. It is a fact, however, that in 33·3 per cent. of the cases in which the decree craved for was granted, the ties between the parties had not been strengthened by the birth of children; for of the 2,843 successful petitions for divorce, judicial separation, or nullity of marriage, no less than 948 affected parties were childless, while the number may have been even larger than this, as in 55 other cases the information did not disclose particulars regarding the fruitfulness of the unions. The number of children affected by the other 1,840 decrees was 4,861, and if allowance be made on account of the 55 cases referred to, it may possibly have reached 5,000.

The conjugal condition of the contracting parties to the marriages concerning which the petitions were granted, is shown in the following table:—

| Conjugal condition of Males. | Conjugal condition of Females. | | | | Total Males. |
|---|---|---|---|---|---|
| | Spinster. | Widow. | Divorced. | Not stated. | |
| Bachelor | 2,333 | 100 | 5 | 4 | 2,442 |
| Widower | 85 | 43 | 3 | 1 | 132 |
| Divorced | 5 | ..... | 1 | ..... | 6 |
| Not stated | 64 | 14 | ..... | 173 | 251 |
| Total, Females | 2,487 | 157 | 9 | 178 | 2,831 |

These figures are exclusive of four nullity suits granted on account of a previous existing marriage of the husband, and of eight nullity suits granted on account of a previous existing marriage of the wife.

Among the 2,843 marriages dissolved from 1873 to the close of 1900 there were 774 in which the age of either husband or wife, or of both, when the marriage was contracted, was unknown. Of the remaining 2,069 cases, it may be said that the great majority related to marriages contracted between parties of suitable ages, 1,255 being between husbands of the ages from 21 to 40 years inclusive, and wives of the ages from 18 to 30 years inclusive. In 605 cases, however, the marriage had been contracted at very early ages, the husband being below 21 years in 247 cases, and the wife below 18 in 394 cases, while there

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were 112 cases in which the husband was less than 21 and the wife less than 18 at the time of marriage. There were only 55 cases in which the husband had been 41 and over at the time of marriage, and 86 in which the wife had been 31 and over, while unions in which the husband had been 41 and over and the wife 31 and over numbered but 26.

Perhaps the union which presented the most peculiar features was one in which the husband was 14 and the wife 15 at the time of marriage. After a duration of 31 years the bond was severed, at the instance of the husband, on account of the wife's adultery, but ultimately the petitioner neglected to have the decree made absolute. Another extreme case was that of a woman of 35 who married a man of 75, and after one year's endurance of her husband's cruelty filed a petition for judicial separation, which was, however, not further proceeded with.

The nationalities of husbands and wives whose marriages were dissolved call for no particular comment. Of the husbands, natives of New South Wales, England, Ireland, Scotland, and Victoria form the only large groups, in the order named; while among the wives the order is slightly altered, Victorians coming next to Englishwomen. As might be expected, there is a much greater preponderance of natives of New South Wales among the wives than among the husbands, the numbers being 1,465 and 1,073 respectively, while in 795 cases both husband and wife were natives of the state. There were 726 Englishmen and 450 Englishwomen whose marriages were dissolved, while England was the birthplace of both husband and wife in 254 cases. After these the most numerous groups in which husband and wife were natives of the same country were those of Ireland and Victoria, but in these groups there were only 41 and 37 cases respectively. The other groups, except the 23 cases in which both husband and wife were natives of Scotland, are too small to deserve mention.

A statement of the divorces, judicial separations, and decrees of nullity of marriage granted in New South Wales in five-year periods to 1892, and annually during the last eight years, will be found below:—

| Period. | Divorces (decrees *nisi*) Granted. | Judicial Separations Granted. | Decrees of Nullity of Marriage Granted. | Total. |
|---|---|---|---|---|
| 1873–1877 ..... | 55 | ..... | ..... | 55 |
| 1878–1882 ..... | 85 | ..... | ..... | 85 |
| 1883–1887 ..... | 141 | 8 | 2 | 151 |
| 1888–1892 ..... | 315 | 31 | 5 | 351 |
| 1893 ..... | 305 | 9 | 1 | 315 |
| 1894 ..... | 311 | 14 | 2 | 327 |
| 1895 ..... | 299 | 11 | 2 | 312 |
| 1896 ..... | 233 | 8 | 1 | 242 |
| 1897 ..... ..... | 245 | 13 | 1 | 259 |
| 1898 ..... ..... | 244 | 17 | 3 | 264 |
| 1899 ..... | 230 | 17 | 2 | 249 |
| 1900 ..... ..... | 216 | 9 | 1 | 226 |
| Total..... | 2,679 | 137 | 20 | 2,836 |

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It has already been explained that until 1873 the Supreme Court of the state had no jurisdiction in divorce. From the 1st July in that year down to the end of 1892 the number of divorce decrees granted was 596. In the month of August, 1892, the new Divorce Act had come into force, and in 1893 the number of decrees *nisi* granted rose to 305, and in the following year to 311 ; while in 1900 the number was still as high as 216. On the basis of the figures of the last eight years, the number of divorces per 10,000 marriages in New South Wales was 302—an average which places the state in the position of having more divorces proportionately to marriages than any other country in the world except the United States and Switzerland. Of course, it is only fair to assume that after the new Act was passed in 1892 advantage was taken of its provisions to dissolve marriages which would have been broken long before had the grounds on which divorce is granted always been the same ; and this might account for the diminished number of divorces granted since 1895. Bearing this in mind, however, it must be confessed that the number of decrees granted in 1900 was still very large.

Below will be found a statement showing the average number of divorces per 10,000 marriages in each of the principal countries of the world. The figures are based on a period of ten years wherever possible :—

| Country. | Divorces per 10,000 marriages. | Country. | Divorces per 10,000 marriages. |
|---|---|---|---|
| Canadian Dominion | 4 | Belgium | 81 |
| United Kingdom | 11 | Sweden | 87 |
| Norway | 16 | Australasia | 94 |
| Queensland | 18 | Cape Colony | 98 |
| South Australia | 25 | Netherlands | 103 |
| Tasmania | 38 | Germany | 165 |
| * Austria Proper | 43 | France | 180 |
| Western Australia | 44 | New South Wales | 261 |
| Greece | 50 | Roumania | 204 |
| New Zealand | 58 | Switzerland | 432 |
| Victoria | 71 | United States | 612 |

* Including Separations, &c.

Only in Austria have judicial separations been taken into account in calculating the averages. In that country the civil law only permits of the divorcement of persons who do not belong to the Roman Catholic Church, adherents to this church being restricted to judicial separations except in the few cases in which marriages are annulled by the Pope by a declaration of their invalidity from the beginning. Owing to the great preponderance of the Catholic population, the number of separations is much larger than that of divorces, the annual averages over a period of years being 672 judicial separations, 19 annulments, and 92



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divorces, giving a total of 783, equal to 43 marriages dissolved in every ten thousand. In the United States of America no general system of registration of births, deaths, and marriages is in force. For the purpose of comparison, the marriage-rate of that country has been assumed to be 6·50 per 1,000 of mean population, and on that basis the 20,660 divorces granted annually during ten years would give an average of not less than 612 per 10,000 marriages. Of European countries where divorce laws are in force, no reliable statistics are available with respect to Denmark, Hungary, Russia, and Spain; while in Italy and Portugal divorce is not recognised by law.

In the Dominion of Canada divorce was, under the Union Act, assigned to the Federal Parliament, but those provinces which had established divorce courts before the accomplishment of federation, namely, Nova Scotia, New Brunswick, Prince Edward Island, and British Columbia, were permitted to retain the jurisdiction which they already exercised. In the remaining provinces, Ontario, Quebec, and Manitoba, and in the North-west Territories, no divorce courts have been established since the constitution of the Dominion, and divorce can only be obtained by legislation, the matter being dealt with in each case as an ordinary private Act of Parliament, with this difference, however, that the Senate requires the production of such evidence in support of the application for relief as would be deemed sufficient in a court of law. During a period of ten years, 118 divorces were granted in Canada, namely, 42 by the Dominion Parliament, and 76 by the provincial courts, with the exception of that of Prince Edward Island, which has not so far granted a single divorce. No general system of registration exists in the Dominion, but it may be said that the divorces do not exceed 4 for every 10,000 marriages. Newfoundland has no divorce law.

### Births.

The mean annual birth-rate of Australasia during the ten years ended 1900 was 29·33 per thousand of mean population, the rate for the Commonwealth being 29·86 and for New Zealand, 29·65. The highest average was that of Queensland, namely, 32·64; then came Tasmania, with 30·46; New South Wales with 30·34; New Zealand, with 29·65; Western Australia, with 29·34; South Australia, with 28·92; and Victoria, with 28·56. In all the states the birth-rate is declining. The figures for 1900 show that in that year the rate in New South Wales was 27·43 per thousand; in Victoria, 25·79; in Queensland, 29·28; in South Australia, 25·59; in Western Australia, 30·06; in Tasmania, 27·37; and in New Zealand, 25·60. The birth-rate for the Commonwealth was 27·15 and for Australasia, 27·00. There can hardly be a doubt that the depression which prevailed in Australasia for a number of years has not only had an adverse influence on the marriage-rate, and consequently on the birth-rate, but, in addition, has in many cases led to the adoption of artificial checks on procreation. The birth-rates of

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1887 and 1888 afforded strong grounds for believing that these checks were being resorted to, and there is little doubt that their use has largely increased. The subject of the decline in the birth-rate is one of great importance, and in the course of the investigation already alluded to on page 970, it was found that three conditions of affairs were prevailing; first, that for all women the proportion of fertile marriages is declining; second, that amongst fertile women the birth-rate is much reduced as compared with what it was twenty years ago; and third, that Australian women are less fertile than the European women who have emigrated to these shores. As an illustration of the decline in fertility, it may be mentioned that in New South Wales, comparing the births with the married women of child-bearing ages (which were taken as being between 18 and 50) the rate had decreased from 30·01 per 100 married women of the above ages in 1884, and 28·64 per hundred in 1888, to 20·12 per hundred in 1898, or a decline of one-third in fifteen years. A similar condition of affairs prevails in the other states, as will be seen from the following table giving the birth-rate per 100 married women in the four eastern states :—

| Year. | New South Wales. | Victoria. | Queensland. | New Zealand. |
|---|---|---|---|---|
| | per cent. | per cent. | per cent. | per cent. |
| 1861..... | 30·61 | 28·54 | ..... | ..... |
| 1871..... | 30·12 | 26·97 | ..... | ..... |
| 1881..... | 29·74 | 25·20 | 28·80 | 28·16 |
| 1891..... | 26·39 | 26·51 | 29·45 | 23·86 |
| 1898..... | 20·12 | 19·30 | 20·80 | 21·42 |

The table shows that the decline has been persistent and regular since 1881, and this restriction of births in a young country like Australia is a matter that must claim the most serious thought. The effect it would have on the prosperity of the country will be seen from the fact that if the present slight inflow of population into New South Wales were to cease, the excess of births over deaths, which is the natural increase of population, would probably only be a little over 1½ per cent., whereas ten years ago it was 2¼ per cent.

For further comparison, the annual birth-rates per thousand of population in several European countries are given below; and from these figures the important fact is established that in 1899 the rate of New South Wales, which was 27·34 for that year, had fallen below that of the great majority of European countries. The information in the table is taken from the report of the Registrar-General of England,

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the figures covering the period of twenty-seven years from 1871 to 1899 :—

| Country. | 1871–90. | 1891. | 1892. | 1893. | 1894. | 1895. | 1896. | 1897. | 1898. | 1899. |
|---|---|---|---|---|---|---|---|---|---|---|
| United Kingdom ..... | 32·6 | 30·4 | 29·5 | 29·9 | 28·9 | 29·5 | 29·2 | 29·1 | 28·8 | 28·7 |
| England and Wales | 34·0 | 31·4 | 30·5 | 30·8 | 29·6 | 30·4 | 29·7 | 29·7 | 29·4 | 29·4 |
| Scotland ..... | 33·6 | 31·2 | 30·8 | 31·0 | 30·2 | 30·4 | 30·9 | 30·6 | 30·8 | 30·6 |
| Ireland ..... | 24·9 | 23·1 | 22·5 | 23·0 | 22·9 | 23·2 | 23·6 | 23·5 | 23·2 | 22·9 |
| France ..... | 24·6 | 22·6 | 22·1 | 22·9 | 22·4 | 21·9 | 22·7 | 22·4 | 22·4 | 22·1 |
| Switzerland ..... | 29·4 | 28·2 | 27·9 | 28·4 | 27·9 | 28·0 | 29·0 | 29·2 | 28·1 | 28·4 |
| Italy ..... | 37·3 | 37·3 | 36·3 | 36·7 | 35·7 | 35·1 | 35·0 | 35·0 | 33·9 | 34·3 |
| German Empire ..... | 38·1 | 37·0 | 35·7 | 36·8 | 35·9 | 36·1 | 36·3 | 36·0 | 36·2 | 35·9 |
| Prussia .. ..... | 38·2 | 37·7 | 36·2 | 37·4 | 36·5 | 36·9 | 37·0 | 36·6 | 37·1 | 37·1 |
| Austria ..... | 38·6 | 37·0 | 36·2 | 37·9 | 36·7 | 38·1 | 38·0 | 37·3 | 36·0 | 37·0 |
| Hungary..... | 44·0 | 42·3 | 40 3 | 42·5 | 41·3 | 41·5 | 40·3 | 40·3 | 37·7 | 39·2 |
| Netherlands' ..... | 35·2 | 33·7 | 32·0 | 33·8 | 32·7 | 32·8 | 32·7 | 32·5 | 31·9 | 32·0 |
| Belgium ..... | 31·0 | 29·6 | 28·9 | 29·5 | 29·0 | 28·5 | 29·0 | 28·9 | 28·6 | 28·8 |
| Denmark ..... | 31·7 | 31·0 | 29·5 | 30·6 | 30·2 | 30·2 | 30·5 | 29·9 | 30·5 | 30·1 |
| Norway ..... | 30·7 | 30·9 | 29·6 | 30·7 | 29·8 | 30·6 | 30·4 | 30·0 | 30·3 | 30·9 |
| Sweden ..... ... | 29·9 | 28·3 | 27·0 | 27·4 | 27·1 | 27·5 | 27·2 | 26·7 | 27·1 | 26·2 |

The birth-rate in 1899, in England and Wales, was 29·4 per thousand; in Scotland 30·6 per thousand; in Ireland 22·9 per thousand; while the general rate for the United Kingdom was 28·7 per thousand.

In New South Wales the births increased year by year from 1865 to 1893, and, although they have diminished since that time, they still exceed those of Victoria. The superiority in number rested with Victoria until the year 1879, when the births in New South Wales exceeded those of her southern neighbour by 94. During each of the last nineteen years the excess has been maintained, the greatest being in 1900, when it reached 6,367.

In no year, so far as observation extends, have the female births exceeded in number those of males. The preponderance of births of male children in New South Wales during a number of years will be seen from the table given below. The figures are exclusive of children stillborn, the births of which are not required to be registered :—

| Year. | Males. | Females. | Total. | Year. | Males. | Females. | Total. |
|---|---|---|---|---|---|---|---|
| 1871 | 10,326 | 9,817 | 20,143 | 1894 | 19,993 | 18,958 | 38,951 |
| 1876 | 11,791 | 11,507 | 23,298 | 1895 | 19,877 | 18,897 | 38,774 |
| 1881 | 14,891 | 14,102 | 28,993 | 1896 | 18,691 | 17,815 | 36,506 |
| 1886 | 18,700 | 17,584 | 36,284 | 1897 | 18,989 | 18,258 | 37,247 |
| 1891 | 20,386 | 19,072 | 39,458 | 1898 | 18,723 | 17,499 | 36,222 |
| 1892 | 20,532 | 19,509 | 40,041 | 1899 | 18,613 | 17,848 | 36,461 |
| 1893 | 20,822 | 19,520 | 40,342 | 1900 | 18,964 | 18,182 | 37,146 |

The excess of males over females born during the past twenty-seven years has ranged from 2·08 per cent. in 1875 to 7·65 per cent. in 1889,

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the average being 5·03 per cent. The following table shows the number of males born to every 100 females :—

| Year. | Males born to every 100 females. | Year. | Males born to every 100 females. |
|---|---|---|---|
| 1871 | 105·18 | 1894 | 105·46 |
| 1876 | 102·47 | 1895 | 105·19 |
| 1881 | 105·59 | 1896 | 104·92 |
| 1886 | 106·35 | 1897 | 104·00 |
| 1891 | 106·89 | 1898 | 106·99 |
| 1892 | 105·24 | 1899 | 104·29 |
| 1893 | 106·67 | 1900 | 104·30 |

In some years the illegitimate births in the state show a majority of female children, and during the last twenty-eight years the proportion of male to 100 female illegitimate births has ranged from 94·96 in 1873 to 121·96 in 1876. Excluding the illegitimates, the variation in the excess of males over females has ranged from 1·71 per cent. in 1876 to 8·06 per cent. in 1889. It is a curious coincidence that the proportion of males born out of wedlock was abnormally high in 1876 and abnormally low in 1889, while the reverse was the case in regard to legitimate births in those years.

The influence of the age of parents upon the sex of offspring is a question that has been often discussed, and in the course of the beforementioned investigation into the phenomena of child-birth in New South Wales the proportions of each sex in every 100 births to parents of every age were tabulated, in order to ascertain if there were any law governing the occurrence of sex, and it was found that the proportion of male births exceeded that of females at every age, with the following general exceptions :—

Where the father's age was 22 years and under, and the mother's age 20 years.

Where the father's age was 21 years and under, and the mother's age 21 years.

Where the father's age was 20 years and under, and the mother's age 22 years.

Where the father was 10 years younger than the mother.

Where the father was 20 years older than the mother, and the mother's age was over 22 years and under 33.

Where the mother was approaching the limit of the child-bearing period irrespective of age of father.

The number of children born to married couples under the conditions mentioned in the foregoing list of exceptions to the general law is not large, probably not reaching more than 2 per cent. of the total births.

Births are more numerous in spring than in any other part of the year, and are fewest in the March quarter. This is found to be the case

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in the other States of Australia as well as in New South Wales. The following table gives the number of births in each quarter of the year since 1880 :—

| Year. | Quarter ending— | | | | Year. | Quarter ending— | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 31 March. | 30 June. | 30 September. | 31 December. | | 31 March. | 30 June. | 30 September. | 31 December. |
| 1880 | 6,590 | 7,116 | 7,230 | 7,226 | 1891 | 9,161 | 9,602 | 10,345 | 10,290 |
| 1881 | 6,976 | 6,983 | 7,514 | 7,520 | 1892 | 9,753 | 10,361 | 9,655 | 10,272 |
| 1882 | 7,195 | 7,273 | 7,827 | 7,407 | 1893 | 9,610 | 10,187 | 10,578 | 9,967 |
| 1883 | 7,378 | 7,755 | 8,000 | 8,148 | 1894 | 9,619 | 9,981 | 9,551 | 9,800 |
| 1884 | 8,141 | 8,443 | 9,160 | 8,202 | 1895 | 9,394 | 9,336 | 10,080 | 9,964 |
| 1885 | 8,178 | 8,508 | 9,656 | 8,701 | 1896 | 9,294 | 9,031 | 9,153 | 9,028 |
| 1886 | 8,451 | 8,976 | 9,592 | 9,265 | 1897 | 8,913 | 9,306 | 9,797 | 9,231 |
| 1887 | 9,075 | 9,183 | 9,890 | 9,088 | 1898 | 8,924 | 8,815 | 9,565 | 8,918 |
| 1888 | 9,058 | 9,651 | 10,162 | 9,654 | 1899 | 8,772 | 8,810 | 9,491 | 9,388 |
| 1889 | 9,125 | 9,292 | 9,635 | 9,243 | 1900 | 9,168 | 9,416 | 9,609 | 8,953 |
| 1890 | 9,154 | 9,667 | 10,497 | 9,642 | | | | | |

Separating the state into the metropolitan and country districts, it will be seen from the following table that during recent years the birth-rate per thousand has been higher in the metropolis than in the remainder of the state. This is due to the proportionately larger number of females in the metropolitan population as compared with the country population, among whom males largely predominate. The highest rate reached for the whole of New South Wales during the last twenty years was 38·81 in 1880. The estimated maximum rate for the metropolis was reached in 1884, when the births were 43·88 per thousand of the population. In the country districts the greatest number of births in proportion to the population occurred in 1880, when the rate was 38·73 per thousand :—

| Year. | Births per thousand of the population. | | | Year. | Births per thousand of the population. | | |
|---|---|---|---|---|---|---|---|
| | Metropolis. | Country. | New South Wales. | | Metropolis. | Country. | New South Wales. |
| 1880 | 39·00 | 38·73 | 38·81 | 1891 | 35·89 | 33·86 | 34·55 |
| 1881 | 38·54 | 37·62 | 37·90 | 1892 | 34·55 | 33·74 | 34·02 |
| 1882 | 39·52 | 36·17 | 37·20 | 1893 | 33·32 | 33·64 | 33·53 |
| 1883 | 40·08 | 36·10 | 37·32 | 1894 | 30·72 | 32·30 | 31·75 |
| 1884 | 43·88 | 36·03 | 38·44 | 1895 | 29·00 | 32·09 | 31·00 |
| 1885 | 43·03 | 35·47 | 37·79 | 1896 | 27·41 | 29·45 | 28·73 |
| 1886 | 43·70 | 34·61 | 37·43 | 1897 | 26·24 | 30·31 | 28·87 |
| 1887 | 42·39 | 34·60 | 37·06 | 1898 | 25·49 | 28·77 | 27·60 |
| 1888 | 41·09 | 35·35 | 37·20 | 1899 | 25·67 | 28·27 | 27·34 |
| 1889 | 37·97 | 33·50 | 34·97 | 1900 | 24·95 | 28·81 | 27·43 |
| 1890 | 36·53 | 34·77 | 35·36 | | | | |

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The excess of births over deaths has not shown a steady increase year by year, but has fluctuated somewhat, as will be seen from the succeeding table. In the whole state, during the period from 1880 to 1900, the least excess was 16,866 in 1882, and the highest 25,631 in the year 1892. In the metropolis the least excess was in 1880, viz., 3,434; and the highest in 1892, when the number reached 8,558. In the country districts the number ranged from 12,278 in 1882 to 17,073 in 1892 :—

| Year. | Metropolis. | Country Districts. | New South Wales. | Per cent. of population at end of previous year. |
|---|---|---|---|---|
| 1880 | 3,434 | 13,497 | 16,931 | 2·39 |
| 1881 | 4,560 | 12,897 | 17,457 | 2·33 |
| 1882 | 4,608 | 12,278 | 16,886 | 2·16 |
| 1883 | 5,342 | 13,690 | 19,032 | 2·33 |
| 1884 | 5,946 | 13,780 | 19,726 | 2·29 |
| 1885 | 5,773 | 13,988 | 19,761 | 2·18 |
| 1886 | 6,860 | 14,837 | 21,697 | 2·28 |
| 1887 | 7,874 | 15,914 | 23,788 | 2·40 |
| 1888 | 7,449 | 16,668 | 24,117 | 2·36 |
| 1889 | 7,006 | 15,493 | 22,499 | 2·14 |
| 1890 | 7,938 | 16,804 | 24,742 | 2·29 |
| 1891 | 7,588 | 15,584 | 23,172 | 2·07 |
| 1892 | 8,558 | 17,073 | 25,631 | 2·14 |
| 1893 | 7,472 | 16,848 | 24,320 | 2·03 |
| 1894 | 7,406 | 16,328 | 23,734 | 1·94 |
| 1895 | 7,276 | 16,584 | 23,860 | 1·91 |
| 1896 | 6,713 | 13,954 | 20,667 | 1·62 |
| 1897 | 6,789 | 16,194 | 22,983 | 1·77 |
| 1898 | 5,550 | 14,011 | 19,561 | 1·48 |
| 1899 | 6,728 | 13,832 | 20,560 | 1·55 |
| 1900 | 6,625 | 15,403 | 22,028 | 1·64 |

The annual increase to the population by reason of the excess of births over deaths was 2·30 per cent. from 1880 to 1884, 2·27 per cent from 1885 to 1889, 2·11 per cent. from 1890 to 1894, 1·68 per cent from 1895 to 1899, and 1·64 per cent. for the year 1900.

Notwithstanding the fact that the males born are more numerous than females, the actual increase of population from the excess of births over deaths is greatly in favour of the females. The male population largely exceeds the female, and there is a correspondingly larger number of deaths of males. There is also a greater mortality amongst male than amongst female children, and from this cause alone the natural excess of male births is almost neutralised. During the ten years which closed with 1900, the number of females added to the community by excess of births exceeded the males by 15,511, or 14·73 per cent.

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## Ages of Parents.

During the eight years 1893–1900 the ages of the women giving birth to children ranged from 12 to 58 years. As might be expected, the majority of the very young mothers were unmarried; thus of 3,687 mothers under 18 years of age, 2,021 were unmarried. The total number of married women who gave birth to children during the eight years was 278,601, the ages of whom were as follow :—

| Ages of Married Mothers. | Number of Mothers. | Ages of Married Mothers. | Number of Mothers. |
|---|---|---|---|
| 14 years ... ... | 8 | 29 years ... ... | 14,908 |
| 15 ,, ... ... | 59 | 30 years and under 35 | 64,796 |
| 16 ,, ... ... | 340 | 35 ,, ,, ,, 40 | 45,678 |
| 17 ,, ... ... | 1,259 | 40 ,, ,, ,, 45 | 17,373 |
| 18 ,, ... ... | 2,979 | 45 ,, ,, ,, 50 | 1,752 |
| 19 ,, ... ... | 5,333 | 50 ,, ... ... | 12 |
| 20 ,, ... ... | 7,148 | 52 ,, ... ... | 5 |
| 21 ,, ... ... | 10,308 | 53 ,, ... ... | 2 |
| 22 ,, ... ... | 12,576 | 55 ,, ... ... | 2 |
| 23 ,, ... ... | 14,577 | 56 ,, ... ... | 1 |
| 24 ,, ... ... | 15,460 | 58 ,, ... ... | 1 |
| 25 ,, ... ... | 15,610 | Not stated ... ... | 17 |
| 26 ,, ... ... | 16,207 | | |
| 27 ,, ... ... | 15,960 | | |
| 28 ,, ... ... | 16,230 | Total ... ... | 278,601 |

It will be seen that in two cases the age of the mother is stated as 55 years; in another case, as 56 years; and in still another case, as 58. As these four cases were outside the usual experience, inquiries were made, with the result that the accuracy of the records was confirmed. It may be mentioned that in the first two cases the ages of the fathers were 45 and 55 years; in the third case, 58 years; and in the fourth case, 64 years. It is found that the age of the mothers of one-fourth of the children born does not exceed 24 years, and that before women pass their twenty-eighth year they give birth to one-half their offspring. Only 10 per cent. of the births occur after age 38, and less than 7 per cent. after age 40 is reached.

The average age of the fathers was nearly five years higher than that of the mothers, the respective ages being 34·31 years and 29·55 years.

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During the eight years 1893–1900, the ages of the fathers ranged from 16 to 84 years, as shown below :—

| Ages of Fathers. | Number of Fathers. | Ages of Fathers. | Number of Fathers. |
|---|---|---|---|
| 16 years | 1 | 66 years | 43 |
| 17 ,, | 11 | 67 ,, | 38 |
| 18 ,, | 91 | 68 ,, | 28 |
| 19 ,, | 351 | 69 ,, | 22 |
| 20 ,, | 893 | 70 ,, | 19 |
| 21 ,, | 2,454 | 71 ,, | 10 |
| 22 ,, | 4,139 | 72 ,, | 10 |
| 23 ,, | 6,196 | 73 ,, | 8 |
| 24 ,, | 8,062 | 74 ,, | 4 |
| 25 ,, | 9,573 | 75 ,, | 9 |
| 26 ,, | 11,188 | 76 ,, | 3 |
| 27 ,, | 12,417 | 77 ,, | 4 |
| 28 ,, | 13,762 | 78 ,, | 5 |
| 29 ,, | 14,717 | 79 ,, | 2 |
| 30 years and under 35 | 71,072 | 80 ,, | 1 |
| 35 ,, ,, 40 | 60,639 | 81 ,, | 1 |
| 40 ,, ,, 45 | 35,595 | 82 ,, | 1 |
| 45 ,, ,, 50 | 17,289 | 83 ,, | 2 |
| 50 ,, ,, 55 | 6,783 | 84 ,, | 2 |
| 55 ,, ,, 60 | 2,349 | Not stated | 29 |
| 60 ,, ,, 65 | 703 | | |
| 65 years | 75 | Total | 278,601 |

### BIRTHPLACES OF PARENTS.

A tabulation of the birthplaces of the 557,202 parents mentioned above shows that of the fathers, 155,030 were born in New South Wales; 18,952 in Victoria; 3,030 in Queensland; 6,035 in South Australia; 162 in Western Australia; 2,389 in Tasmania; and 2,640 in New Zealand. The total number of Australasian-born fathers was, therefore, 188,238. Of Australasian-born mothers there were 226,379, viz. :—189,145 natives of New South Wales; 20,109 of Victoria; 4,687 of Queensland; 7,276 of South Australia; 181 of Western Australia; 2,181 of Tasmania; and 2,800 of New Zealand. In 130,845 cases both father and mother were natives of New South Wales; and in 164,837 cases they were natives of one or other of the Australasian colonies.

There were 77,635 fathers born in the United Kingdom, viz. :—47,097 born in England, 1,752 in Wales, 11,527 in Scotland, and 17,259 in Ireland. Mothers born in the United Kingdom numbered 47,670, viz. :—26,035 English; 1,020 Welsh; 6,666 Scotch; and 13,949 Irish. In 29,733 cases both parents were born in the United Kingdom; in 13,013 cases both were English; in 299 cases both Welsh; in 2,855 cases both Scotch; and in 5,700 cases both Irish.

Fathers born in other British colonies and possessions numbered 1,453, viz. :—477 born in Asiatic possessions; 292 born in various African

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possessions; 430 in Canada and Newfoundland; 128 in the West Indies, and 166 elsewhere. Of 821 mothers, 342 were born in Asiatic possessions; 172 in African possessions; 103 in Canada; 31 in the West Indies; and 173 elsewhere.

Foreign-born fathers were more numerous. Amongst them were 3,283 Germans, 530 Frenchmen, 668 Russians, 221 Austrians, 759 Danes, 1,829 Swedes and Norwegians, 589 Italians, 745 natives of other European countries, 479 Chinese, 77 natives of other Asiatic countries, 12 natives of African countries, 1,026 natives of the United States, 88 natives of other American countries, and 41 Polynesians; total, 10,347. Of 3,121 foreign-born mothers, 1,040 were German, 189 French, 211 Russian, 55 Austrian, 161 Danish, 96 Swedish or Norwegian, 329 Italian, 324 natives of other European countries, 154 natives of China, 47 of other Asiatic countries, 4 of African countries, 437 of the United States, 31 of other American countries, and 43 of Polynesia. There were only 1,772 cases in which both parents were foreign-born.

Besides the fathers enumerated above, there were 864 who were born at sea, and 24 whose birthplaces were not stated. Of mothers there were 590 born at sea, and 20 whose birthplaces were not stated.

### Birth of First Child.

The period elapsing from the date of marriage to the birth of the first child has been ascertained for the eight years 1893 to 1900. The total number of first births occurring during that period was 56,247. The time which had elapsed since the ceremony of marriage was performed is shown in the following table:—

| Period. | Number of First Births. | Period. | Number of First Births. | Period. | Number of First Births. |
|---|---|---|---|---|---|
| 1 month and under | 1,790 | 16 months ... | 1,272 | 9 years ..... | 93 |
| 2 months ..... | 1,664 | 17 ,, ... | 1,036 | 10 ,, ..... | 58 |
| 3 ,, ..... | 2,128 | 18 ,, ... | 908 | 11 ,, ..... | 46 |
| 4 ,, ..... | 2,280 | 19 ,, ... | 781 | 12 ,, ..... | 41 |
| 5 ,, ..... | 2,509 | 20 ,, ... | 736 | 13 ,, ..... | 15 |
| 6 ,, ..... | 2,720 | 21 ,, ... | 644 | 14 ,, ..... | 16 |
| 7 ,, ..... | 2,720 | 22 ,, ... | 579 | 15 ,, ..... | 13 |
| 8 ,, ..... | 2,530 | 23 ,, ... | 539 | 16 ,, ..... | 11 |
| 9 ,, ..... | 6,317 | 2 years ... | 3,472 | 17 ,, ..... | 5 |
| 10 ,, ..... | 5,858 | 3 ,, ..... | 1,267 | 18 ,, ..... | 3 |
| 11 ,, ..... | 4,136 | 4 ,, ..... | 622 | 20 ,, ..... | 1 |
| 12 ,, ..... | 2,994 | 5 ,, ..... | 340 | 22 ,, ..... | 2 |
| 13 ,, ..... | 2,289 | 6 ,, ..... | 220 | | |
| 14 ,, ..... | 1,775 | 7 ,, ..... | 142 | Total ... | 56,247 |
| 15 ,, ..... | 1,546 | 8 ,, ..... | 129 | | |

It will be seen that of the 56,247 first births 24,658, or 43·8 per cent., occurred before ten months had elapsed from the date of marriage; and 18,344, or 32·6 per cent., within nine months after marriage.

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Excluding births occurring within nine months of marriage, the average period elapsing from the date of marriage to the birth of the first child in fruitful unions is 1·445 years (1 year 5⅓ months). As will be seen from the following table, the average period of fruitfulness of women married at various ages rises gradually as the age increases :—

| Age of Mothers. | Number of Mothers. | Average Period elapsing from Marriage to First Confinement. |
|---|---|---|
| | | years. |
| 15 and under 20 years ..... ..... | 3,350 | 1·224 |
| 20 ,, 25 ,, ..... | 16,914 | 1·344 |
| 25 ,, 30 ,, ..... ... .. | 11,891 | 1·636 |
| 30 ,, 35 ,, ..... | 4,092 | 2·255 |
| 35 ,, 40 ,, ..... | 1,338 | 2·725 |
| 40 ,, 45 ,, ..... | 293 | 3·171 |

## ILLEGITIMACY.

A statement of the number of illegitimate births in New South Wales is given below. Taking the whole period over which the table extends, it will be seen that the percentage has increased throughout the state, notably in the city and suburbs of Sydney :—

| Year. | Number of Illegitimate Births. | | | Percentage of Total Births. | | |
|---|---|---|---|---|---|---|
| | Metropolis. | Country Districts. | New South Wales. | Metropolis. | Country Districts. | New South Wales. |
| 1879 | 506 | 709 | 1,215 | 6·44 | 3·72 | 4·51 |
| 1880 | 561 | 665 | 1,226 | 6·71 | 3·36 | 4·35 |
| 1881 | 592 | 671 | 1,263 | 6·64 | 3·34 | 4·36 |
| 1882 | 601 | 660 | 1,261 | 6·24 | 3·28 | 4·24 |
| 1883 | 676 | 642 | 1,318 | 6·59 | 3·05 | 4·21 |
| 1884 | 786 | 709 | 1,495 | 6·62 | 3·21 | 4·40 |
| 1885 | 845 | 767 | 1,612 | 6·89 | 3·37 | 4·60 |
| 1886 | 905 | 782 | 1,687 | 6·89 | 3·38 | 4·65 |
| 1887 | 873 | 838 | 1,711 | 6·50 | 3·52 | 4·59 |
| 1888 | 1,049 | 909 | 1,958 | 7·65 | 3·66 | 5·08 |
| 1889 | 1,066 | 921 | 1,987 | 7·99 | 3·84 | 5·33 |
| 1890 | 1,056 | 995 | 2,051 | 7·81 | 3·91 | 5·26 |
| 1891 | 1,149 | 966 | 2,115 | 8·20 | 3·80 | 5·36 |
| 1892 | 1,242 | 1,047 | 2,289 | 8·83 | 4·02 | 5·71 |
| 1893 | 1,257 | 1,253 | 2,510 | 9·01 | 4·75 | 6·22 |
| 1894 | 1,204 | 1,233 | 2,437 | 9·13 | 4·79 | 6·26 |
| 1895 | 1,219 | 1,305 | 2,524 | 9·55 | 5·02 | 6·51 |
| 1896 | 1,189 | 1,256 | 2,445 | 9·66 | 5·19 | 6·70 |
| 1897 | 1,176 | 1,276 | 2,452 | 9·79 | 5·06 | 6·58 |
| 1898 | 1,233 | 1,278 | 2,511 | 10·35 | 5·25 | 6·93 |
| 1899 | 1,305 | 1,304 | 2,609 | 10·66 | 5·38 | 7·16 |
| 1900 | 1,222 | 1,383 | 2,605 | 10·08 | 5·53 | 7·01 |

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Dividing the years since 1871 into quinquennial periods, the average rate of illegitimate births as compared with the total number of births, was as appended :—

| Quinquennial Period. | Metropolis. | Remainder of State. | New South Wales. |
|---|---|---|---|
| | per cent. | per cent. | per cent. |
| 1871–75 | 5·11 | 3·72 | 4·09 |
| 1876–80 | 6·21 | 3·44 | 4·22 |
| 1881–85 | 6·60 | 3·25 | 4·36 |
| 1886–90 | 7·37 | 3·67 | 4·90 |
| 1891–95 | 8·93 | 4·38 | 6·01 |
| 1896–1900 | 10·26 | 5·24 | 6·88 |

Possibly the smaller proportion of illegitimate births noticeable in the country districts is to some extent due to the fact that women who have fallen come to Sydney to hide their shame. The table given below, showing the number of accouchements at the Benevolent Asylum, certainly gives colour to this supposition, for out of the large number of unmarried women whose confinements took place in that institution it is only reasonable to suppose that the country contributed a considerable quota :—

| Year. | Confinements. | | | Year. | Confinements. | | |
|---|---|---|---|---|---|---|---|
| | Total. | Married Females. | Unmarried Females. | | Total. | Married Females. | Unmarried Females. |
| 1865 | 129 | 50 | 79 | 1883 | 210 | 33 | 177 |
| 1866 | 129 | 51 | 78 | 1884 | 305 | 84 | 221 |
| 1867 | 121 | 44 | 77 | 1885 | 262 | 55 | 207 |
| 1868 | 102 | 46 | 56 | 1886 | 300 | 71 | 229 |
| 1869 | 112 | 40 | 72 | 1887 | 257 | 76 | 181 |
| 1870 | 95 | 29 | 66 | 1888 | 281 | 70 | 211 |
| 1871 | 117 | 54 | 63 | 1889 | 252 | 48 | 204 |
| 1872 | 102 | 37 | 65 | 1890 | 266 | 35 | 231 |
| 1873 | 107 | 27 | 80 | 1891 | 324 | 61 | 263 |
| 1874 | 126 | 36 | 90 | 1892 | 339 | 54 | 285 |
| 1875 | 113 | 30 | 83 | 1893 | 338 | 64 | 274 |
| 1876 | 156 | 38 | 118 | 1894 | 393 | 80 | 313 |
| 1877 | 169 | 41 | 128 | 1895 | 385 | 89 | 296 |
| 1878 | 160 | 38 | 122 | 1896 | 354 | 67 | 287 |
| 1879 | 203 | 45 | 158 | 1897 | 302 | 56 | 246 |
| 1880 | 233 | 51 | 182 | 1898 | 241 | 38 | 203 |
| 1881 | 225 | 50 | 175 | 1899 | 244 | 46 | 198 |
| 1882 | 237 | 45 | 192 | 1900 | 233 | 35 | 198 |

'The rate of illegitimacy in New South Wales is higher than in any of the other Australasian provinces, higher than the general rate of the

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United Kingdom, higher than in England, Wales, and Ireland, but lower than in Scotland and in most of the continental countries of Europe. Moreover, illegitimacy in New South Wales, and in Australasia as a whole, is increasing, while in the United Kingdom it is decreasing. The following figures, showing the rate of illegitimacy per 100 births in the Commonwealth and New Zealand, are based on a period of five years :—

| State. | Illegitimate births per cent. |
|---|---|
| New South Wales | 6·88 |
| Victoria | 5·55 |
| Queensland | 5·94 |
| South Australia | 3·76 |
| Western Australia | 5·06 |
| Tasmania | 5·65 |
| Commonwealth | 5·90 |
| New Zealand | 4·42 |
| Australasia | 5·75 |

The rate of illegitimacy for a like period in England and Wales was 4·15 ; in Scotland, 6·97 ; and in Ireland, 2·65.

Of the total number of children born in Australasia during the five years ended 1900, 5·75 per cent. were illegitimate, as compared with 4·42 per cent. in the United Kingdom during the five years 1895–99.

To enable a comparison to be made with the chief countries of Continental Europe, the following table has been compiled. The rates are in most cases based on the five years 1895–99. In a majority of the countries mentioned, illegitimacy seems to be on the increase :—

| Country. | Illegitimate births per cent. | Country. | Illegitimate births per cent. |
|---|---|---|---|
| Germany | 9·21 | France | 8·26 |
| Prussia | 7·84 | Belgium | 8·51 |
| Bavaria | 14·00 | Netherlands | 2·71 |
| Saxony | 12·90 | Sweden | 10·80 |
| Austria | 14·55 | Norway | 7·35 |
| Hungary | 9·01 | Italy | 6·34 |

If the births of illegitimate children in 1893–1900 be compared with the total number of confinements, it will be found that for all ages the

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proportion of illegitimates is 6·63 per cent. Excluding ages under 15, the proportion of illegitimate to the total confinements is as follows:—

| Ages. | Percentage o Illegitimate to total Confinements. |
|---|---|
| 15 and under 20 years ..... | 35·12 |
| 20 ,, 25 ,, ..... | 11·31 |
| 25 ,, 30 ,, ..... | 4·19 |
| 30 ,, 35 ,, ..... | 2·53 |
| 35 ,, 40 ,, ..... | 2·37 |
| 40 ,, 45 ,, ..... | 1·83 |

Although there are instances in which a woman has a numerous family of illegitimate children, illegitimate births are, for the most part, first births. If, then, the illegitimate are reckoned as first births, together with the births of children of ante-nuptial conception—that is to say, births which have taken place within nine months of marriage—and ordinary first births, there were during the six years 1893–1900:—

| | Number. | Per cent. |
|---|---|---|
| First births of post-nuptial conception ..... | 37,906 | 49·74 |
| ,, ante-nuptial ,, ..... | 18,341 | 24·07 |
| ,, illegitimate ,, ..... | 19,965 | 26·19 |
| Total..... | 76,212 | 100·00 |

and if these are set down side by side in various groups according to the ages of the mothers, some very striking results are obtained—results which afford matter for very serious reflection. The figures are given in the following table:—

| Age Groups. | Illegitimate Births. | | Legitimate Births. | | | |
|---|---|---|---|---|---|---|
| | | | Within 9 months of marriage. | | 9 months and over. | |
| | Number. | Per cent. of First Births at each age. | Number. | Per cent. of First Births at each age. | Number. | Per cent. of First Births at each age. |
| Under 20 years..... | 5,534 | 40·92 | 4,638 | 34·30 | 3,352 | 24·78 |
| 20 and under 25 years..... | 7,717 | 22·58 | 9,550 | 27·94 | 16,914 | 49·48 |
| 25 ,, 30 ,, ..... | 3,508 | 19·01 | 3,050 | 16·53 | 11,891 | 64·46 |
| 30 ,, 35 ,, ..... | 1,718 | 26·18 | 751 | 11·45 | 4,092 | 62·37 |
| 35 ,, 40 ,, ..... | 1,114 | 40·70 | 285 | 10·41 | 1,338 | 48·89 |
| 40 years and over ..... | 374 | 49·21 | 67 | 8·82 | 319 | 41·97 |
| Totals..... | 19,965 | 26·19 | 18,341 | 24·07 | 37,906 | 49·74 |

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For all ages the number of illegitimate births forms 26·19 per cent. of the first births; the number of children born within nine months of marriage equals 24·07 per cent.; while the number of children born nine months and upwards from date of marriage equals 49·74 per cent., or a little less than one-half of the total. The prevalence of births of ante-nuptial conception is a matter very little understood, but when it is stated that nearly one-third (32·6 per cent.) of legitimate first births are due to pre-nuptial intercourse, the seriousness of affairs will be seen. During the years 1893–1900 there were 18,341 marriages in respect of which there was ante-nuptial conception, and as there were altogether 68,912 marriages during that period, at least 27 marriages in a hundred followed conception. The above figures throw a strong side light on the morals of the community. It unfortunately happens that a comparison cannot be made with previous years, and it cannot therefore be stated whether the moral condition is in any degree better or worse than formerly.

It has already been stated that some of the mothers of illegitimate children are very young. This will be seen from the following table, showing the ages of the females who gave birth to illegitimate children during the eight years 1893–1900 :—

| Ages of Mothers. | Number of Mothers. | Ages of Mothers. | Number of Mothers. | Ages of Mothers. | Number of Mothers. |
|---|---|---|---|---|---|
| 12 years | 1 | 27 years | 668 | 42 years | 77 |
| 13 ,, | 10 | 28 ,, | 609 | 43 ,, | 53 |
| 14 ,, | 64 | 29 ,, | 511 | 44 ,, | 19 |
| 15 ,, | 212 | 30 ,, | 494 | 45 ,, | 15 |
| 16 ,, | 592 | 31 ,, | 288 | 46 ,, | 12 |
| 17 ,, | 1,142 | 32 ,, | 333 | 47 ,, | 3 |
| 18 ,, | 1,578 | 33 ,, | 302 | 48 ,, | 3 |
| 19 ,, | 1,917 | 34 ,, | 293 | 49 ,, | 1 |
| 20 ,, | 1,883 | 35 ,, | 286 | 50 ,, | 4 |
| 21 ,, | 1,806 | 36 ,, | 238 | 54 ,, | 1 |
| 22 ,, | 1,590 | 37 ,, | 209 | 55 ,, | 1 |
| 23 ,, | 1,337 | 38 ,, | 202 | Not stated | 60 |
| 24 ,, | 1,070 | 39 ,, | 175 | | |
| 25 ,, | 919 | 40 ,, | 111 | Total | 19,940 |
| 26 ,, | 786 | 41 ,, | 65 | | |

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The birthplaces of the mothers of illegitimate children were as follow:—New South Wales, 14,988; Victoria, 1,232; Queensland, 571; South Australia, 408; Western Australia, 15; Tasmania, 181; New Zealand, 304; England, 1,206; Wales, 50; Scotland, 243; Ireland, 465; other British possessions, 33; Germany, 73; United States, 17; other foreign countries, 59; at sea, 33; not stated, 62.

Of 3,836 infants who died in the state during the year 1900 before they had attained the age of 12 months, 3,087 were legitimate, and 749 illegitimate; and of 4,875 children who died before they had reached the age of 5 years, 4,058 were legitimate, and 817 illegitimate. From this it would appear that while the death-rate of all children under 1 year of age was 103·3 per thousand, and of all children under 5 years of age, 3·4 per thousand, the death-rate of legitimate children of less than 12 months was 89·4 per thousand, and of legitimate children under 5 years of age, 26·8 per thousand; and the death-rate of illegitimates under 12 months of age was 287·5 per thousand, and under 5 years of age, 91·5 per thousand. These figures disclose the fact that the death-rate of illegitimates under 1 year was 221·6 per cent. higher than that of legitimates, and that the death-rate of illegitimates under 5 years was 241·4 per cent. higher than that of legitimates. In other words, the probability of a legitimate child in New South Wales reaching the age of 5 years is more than three times as great as that of an illegitimate child.

## Twins and Triplets.

During the year 1900 there were two cases of triplets, comprising 2 males and 4 females. Twins numbered 384 cases, comprising 394 males and 374 females—in all, 768 children. The number of children born as triplets and twins formed 2·08 per cent. of the total births.

| District. | Triplets. | | | | Twins. | | | |
|---|---|---|---|---|---|---|---|---|
| | No. of cases. | M. | F. | Total. | No. of cases. | M. | F. | Total. |
| Sydney..... | ... | ... | ... | ... | 15 | 12 | 18 | 30 |
| Suburbs..... | ... | ... | ... | ... | 93 | 103 | 83 | 186 |
| Country..... | 2 | 2 | 4 | 6 | 276 | 279 | 273 | 552 |
| Total..... | 2 | 2 | 4 | 6 | 384 | 394 | 374 | 768 |

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The following table shows the number of twins and triplets born in New South Wales during the last ten years, excluding those still-born :—

| Year. | Triplets. | | | | Twins. | | | |
|---|---|---|---|---|---|---|---|---|
| | No. of cases. | M. | F. | Total living at Birth. | No. of cases. | M. | F. | Total living at Birth. |
| 1891 | ..... | ..... | ..... | ..... | 393 | 388 | 397 | 785 |
| 1892 | 6 | 8 | 10 | 18 | 328 | 332 | 323 | 655 |
| 1893 | 5 | 8 | 7 | 15 | 408 | 400 | 414 | 814 |
| 1894 | 3 | 4 | 4 | 8 | 365 | 362 | 367 | 729 |
| 1895 | 6 | 12 | 6 | 18 | 396 | 396 | 395 | 791 |
| 1896 | 2 | 2 | 4 | 6 | 335 | 335 | 334 | 669 |
| 1897 | 1 | 3 | ..... | 3 | 417 | 415 | 418 | 833 |
| 1898 | 3 | 6 | 3 | 9 | 366 | 393 | 339 | 732 |
| 1899 | 3 | 4 | 4 | 8 | 389 | 399 | 377 | 776 |
| 1900 | 2 | 2 | 4 | 6 | 384 | 394 | 374 | 768 |
| Total ..... | 31 | 49 | 42 | 91 | 3,781 | 3,814 | 3,738 | 7,552 |

There were also quartettes in 1893, 1895, and 1897.

As shown in the foregoing table, there were 3,781 cases of twins, 31 cases of triplets, and 3 quartettes during the ten years 1891–1900. The total number of confinements recorded during this period was 377,333. It follows, therefore, that one mother in every 100 gave birth to twins; one mother in every 12,172 was delivered of three children, and one in every 125,778 of four children at a birth.

The ages of the mothers of all twins born during 1893–1900 were as follow :—

| Ages of Mothers. | Number of Confinements | Ages of Mothers. | Number of Confinements |
|---|---|---|---|
| 13 years ..... | 1 | 26 years ..... | 146 |
| 16 ,, ..... | 2 | 27 ,, ..... | 143 |
| 17 ,, ..... | 9 | 28 ,, ..... | 164 |
| 18 ,, ..... | 16 | 29 ,, ..... | 179 |
| 19 ,, ..... | 30 | 30 years and under 35 | 863 |
| 20 ,, ..... | 48 | 35 ,, ,, 40 | 716 |
| 21 ,, ..... | 62 | 40 ,, ,, 45 | 222 |
| 22 ,, ..... | 84 | 45 ,, .....50 | 15 |
| 23 ,, ..... | 119 | | |
| 24 ,, ..... | 103 | Total ..... | 3,060 |
| 25 ,, ..... | 138 | | |

The ages of 150 unmarried mothers who gave birth to twins are included in the above table.



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The ages of the fathers, excluding the 150 cases in which the children were illegitimate, are shown in the following table :—

| Ages of Fathers. | Cases of Twins. | Ages of Fathers. | Cases of Twins. |
|---|---|---|---|
| 19 years | 2 | 35 years and under 40 | 791 |
| 20 ,, | 2 | 40 ,, ,, 45 | 422 |
| 21 ,, | 14 | 45 ,, ,, 50 | 213 |
| 22 ,, | 24 | 50 ,, ,, 55 | 95 |
| 23 ,, | 33 | 55 ,, ,, 60 | 42 |
| 24 ,, | 59 | 60 ,, 65 | 10 |
| 25 ,, | 65 | 65 ,, | 1 |
| 26 ,, | 65 | 66 ,, | 1 |
| 27 ,, | 91 | 75 ,, | 1 |
| 28 ,, | 117 | | |
| 29 ,, | 123 | | |
| 30 years and under 35 | 739 | Total | 2,910 |

Of the mothers of twins, 2,017 were born in New South Wales ; 250 in Victoria ; 172 in the other Australasian provinces ; 310 in England and Wales ; 81 in Scotland ; 183 in Ireland ; and 47 in other countries. Of the fathers, 1,538 were born in New South Wales ; in Victoria, 216 ; in the other Australasian provinces, 128 ; in England and Wales, 570 ; in Scotland, 114 ; in Ireland, 200 ; and in other countries, 144.

The ages of the parents in the 25 cases of triplets that occurred during the eight years, 1893–1900, were as follow :—

| Ages of Fathers. | Cases of Triplets. | Ages of Mothers. | Cases of Triplets. |
|---|---|---|---|
| 28 years | 1 | 22 years | 1 |
| 29 ,, | 1 | 25 ,, | 1 |
| 30 ,, | 1 | 26 ,, | 2 |
| 31 ,, | 1 | 27 ,, | 1 |
| 32 ,, | 3 | 30 ,, | 3 |
| 33 ,, | 1 | 31 ,, | 1 |
| 34 ,, | 2 | 32 ,, | 2 |
| 35 ,, | 2 | 33 ,, | 3 |
| 36 ,, | 1 | 35 ,, | 4 |
| 39 ,, | 2 | 36 ,, | 1 |
| 40 ,, | 1 | 37 ,, | 1 |
| 41 ,, | 1 | 38 ,, | 1 |
| 42 ,, | 1 | 39 ,, | 2 |
| 43 ,, | 2 | 40 ,, | 2 |
| 45 ,, | 1 | | |
| 50 ,, | 1 | | |
| 55 ,, | 1 | | |
| Total | 23 | Total | 25 |

The ages of fathers do not include two cases of illegitimate triplets.

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Of the fathers, 15 were born in New South Wales, 1 in South Australia, 3 in England, 1 in Scotland, 2 in Ireland, and one at sea; while of the mothers, 18 were born in New South Wales, 1 in Victoria, 1 in South Australia, 2 in England, 1 in Scotland, and 2 in Ireland.

In the case of the quartette which occurred in 1893, the ages of both parents were 21, and both were born in New South Wales; in the case of the 1895 quartette the father, aged 38, was born in New South Wales, and the mother, aged 36, was born in Ireland; and in the case of the 1897 quartette the parents were born in Scotland, the father being 35, and the mother 33 years of age. The matter of plural births was one of the subjects of the investigation into the phenomena of childbirth, and it was found that the age of the parents is the chief determining factor in plural births. Whatever part heredity may play in marking out those who are liable to give birth to twins or triplets, it is clear that there is a certain period of age, both in males and in females, at which there is a greater tendency to produce twins than at other periods. For females this period is somewhere between the 35th and 40th years, and for males it appears to be even later. Similarly with triplets, their maximum occurrence is where the father's age is from 50 to 55 years, and the mother's age from 35 to 40 years.

There were, during the eight years, 1893 to 1900, 422 cases of twins at first birth. The period elapsing between the date of marriage and the birth of the children is shown in the following table:—

| Period. | Number of Confinements | Period. | Number of Confinements | Period. | Number of Confinements |
|---|---|---|---|---|---|
| 1 month and under | 8 | 12 months.. | 22 | 23 months.. | 5 |
| 2 months ..... | 8 | 13 ,, ... | 15 | 2 years ... | 25 |
| 3 ,, ..... | 17 | 14 ,, ... | 14 | 3 ,, ... | 11 |
| 4 ,, ..... | 19 | 15 ,, ... | 10 | 4 ,, ... | 3 |
| 5 ,, ..... | 23 | 16 ,, ... | 7 | 5 ,, ... | 3 |
| 6 ,, ..... | 19 | 17 ,, .. | 6 | 7 ,, ... | 1 |
| 7 ,, ..... | 36 | 18 ,, ... | 4 | 11 ,, ... | 1 |
| 8 ,, ..... | 33 | 19 ,, ... | 6 | | |
| 9 ,, ..... | 56 | 20 ,, ... | 5 | | |
| 10 ,, ..... | 30 | 21 ,, ... | 3 | Total ... | 422 |
| 11 ,, ..... | 27 | 22 ,, ... | 5 | | |

Of the 2 cases of triplets which occurred at first birth during the eight years 1893–1900, 1 took place 9 months, and the other 16 months after marriage. None of the 3 quartettes occurred at a first birth.

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## Deaths in Child-birth.

Taking one year with another, the deaths resulting from various diseases and casualties incident to child-birth average about 7 per thousand births, or one death to every 141 births. During the eight years ended 1900 the deaths from various assigned causes were:—

| Causes of Death. | 1893. | 1894. | 1895. | 1896. | 1897. | 1898. | 1899. | 1900. | Total, 1893 to 1900. |
|---|---|---|---|---|---|---|---|---|---|
| Abortion | 5 | 12 | 11 | 11 | 26 | 16 | 20 | 18 | 119 |
| Miscarriage | 19 | 21 | 26 | 27 | 32 | 20 | 32 | 33 | 210 |
| Puerperal Fever | 67 | 110 | 111 | 81 | 113 | 92 | 82 | 75 | 731 |
| Puerperal Mania | 3 | 4 | 1 | 5 | 3 | 1 | 3 | 2 | 22 |
| Puerperal Convulsions | 22 | 28 | 23 | 27 | 32 | 31 | 35 | 28 | 226 |
| Placenta prævia, Flooding | 36 | 30 | 40 | 36 | 39 | 37 | 44 | 39 | 301 |
| Phlegmasia dolens | 3 | 1 | 2 | 1 | 4 | ... | 2 | 1 | 14 |
| Other casualties of child-birth. | 66 | 61 | 64 | 61 | 72 | 59 | 60 | 72 | 515 |
| Total | 221 | 267 | 278 | 249 | 321 | 256 | 278 | 268 | 2,138 |

It will be seen that nearly one-fourth of the total number of deaths are simply attributed to child-birth. These would have been classified under their proper headings had fuller information been available. This faulty definition is mainly due to the want of care on the part of medical attendants, who, when furnishing the certificates required of them by law, simply certify to the cause of death as child-birth, which means, in most cases, one of the specific causes mentioned in the table. Of the 1,917 cases which occurred during the seven years 1894–1900, the children were born alive in 981 cases, and still-born in 936 cases.

Taking the eight years 1893–1900, 1,927 of the 2,138 women who yielded up life were married, and 211 single; and as there were during this period 278,601 legitimate and 19,940 illegitimate births—reckoning cases of twins and triplets as single births—it follows that amongst married women the fatal cases average 6·92, and amongst single women 10·58 per thousand births. The law does not require a record of the illegitimate children of a deceased woman, so that it is impossible to say how many single women died in first confinement during the eight years under review. Deducting the number of single women who are reckoned to have died in child-birth during the eight years without previous issue, namely 183, from the total number of deaths in first confinement, there will remain 495 deaths of married women in first confinement during the period, averaging 8·8 per thousand such births, the total number of first confinements of married women in the course of the eight years having been 56,247.

The following table shows the deaths in child-birth during the eight years 1893–1900 arranged according to the previous issue of the deceased

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mothers, exclusive of children still-born, no information with respect to these being shown in the death registers :—

| Previous Issue, Number of Children. | Number of Deaths. | Previous Issue, Number of Children. | Number of Deaths. |
|---|---|---|---|
| Illegitimate ..... | 211 | Legitimate, 9..... | 53 |
| Legitimate, 0..... | 495 | ,, 10..... | 38 |
| ,, 1..... | 215 | ,, 11..... | 30 |
| ,, 2..... | 212 | ,, 12..... | 25 |
| ,, 3..... | 169 | ,, 13..... | 4 |
| ,, 4..... | 184 | ,, 14..... | 4 |
| ,, 5..... | 137 | ,, 15..... | 1 |
| ,, 6..... | 130 | ,, 16..... | 1 |
| ,, 7..... | 126 | ,, 17..... | 2 |
| ,, 8..... | 101 | | |

The next table shows the risk attending child-birth, at each age to mothers of first children (primiparae), based on the experience of the eight years 1893–1900, and it is found that the probability of death is least at age 20, increasing very rapidly after that age is passed; and increasing also as the age falls below 20. For primiparae the fatal cases represent one death to 114 confinements :—

| Ages of Mothers. | Number of first Confinements (Primiparae). | Number of Deaths during first Confinement. | Proportion of Deaths per 1,000 Confinements. |
|---|---|---|---|
| Under 18 years ..... | 1,549 | 11 | 7·10 |
| 18 years ..... | 2,504 | 21 | 8·39 |
| 19 ,, ..... | 3,935 | 29 | 7·37 |
| 20 ,, ..... | 4,408 | 23 | 5·22 |
| 21 ,, ..... | 5,676 | 39 | 6·87 |
| 22 ,, ..... | 5,942 | 44 | 7·40 |
| 23 ,, ..... | 5,621 | 46 | 8·18 |
| 24 ,, ..... | 4,816 | 35 | 7·27 |
| 25 ,, ..... | 4,188 | 35 | 8·36 |
| 26 ,, ..... | 3,560 | 28 | 7·87 |
| 27 ,, ..... | 2,897 | 24 | 8·28 |
| 28 ,, ..... | 2,461 | 25 | 10·16 |
| 29 ,, ..... | 1,835 | 28 | 15·26 |
| 30 ,, and under 35 ..... | 4,843 | 71 | 14·66 |
| 35 ,, ,, 40 ..... | 1,623 | 22 | 13·56 |
| 40 ,, ,, 45 ..... | 353 | 10 | 28·33 |
| 45 ,, and upwards ..... | 32 | 2 | 62·50 |
| Not stated ..... | 4 | ..... | ..... |
| Total..... | 56,247 | 493 | 8·76 |

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And similarly with women who have already borne children (multiparae), the risk of death is least at age 20—that is to say, the same year as for primiparae. The fatal cases represent one death to 154 confinements :—

| Ages of Mothers. | Number of Confinements (Multiparae). | Number of Deaths during Confinement. | Proportion of Deaths per 1,000 Confinements. |
|---|---|---|---|
| Under 18 years | 117 | ..... | ..... |
| 18 years | 475 | 2 | 4·21 |
| 19 ,, | 1,398 | 5 | 3·58 |
| 20 ,, | 2,740 | 7 | 2·55 |
| 21 ,, | 4,632 | 12 | 2·59 |
| 22 ,, | 6,634 | 28 | 4·22 |
| 23 ,, | 8,956 | 27 | 3·01 |
| 24 ,, | 10,644 | 38 | 3·57 |
| 25 ,, | 11,422 | 36 | 3·15 |
| 26 ,, | 12,647 | 51 | 4·03 |
| 27 ,, | 13,063 | 65 | 4·98 |
| 28 ,, | 13,769 | 84 | 6·10 |
| 29 ,, | 13,073 | 62 | 4·74 |
| 30 ,, and under 35 | 59,953 | 408 | 6·81 |
| 35 ,, ,, 40 | 44,055 | 401 | 9·10 |
| 40 ,, ,, 45 | 16,220 | 186 | 11·47 |
| 45 ,, and upwards | 1,743 | 22 | 12·62 |
| Not stated | 11 | ..... | ..... |
| Total | 221,552 | 1,434 | 6·47 |

The preceding two tables relate to married women only. There is a difficulty in dealing with the deaths of unmarried women, as the previous issue of such is not to be ascertained. The ages of mothers of illegitimate children, as well as the deaths during the period 1893–1900, are shown below. The fatal cases represent one death to every 95 confinements :—

| Ages of Mothers. | Number of Confinements of Unmarried Women. | Number of Deaths during Confinement. | Proportion of Deaths per 1,000 Confinements. |
|---|---|---|---|
| Under 15 years | 75 | 2 | 26·67 |
| 15 years and under 20 | 5,441 | 66 | 12·13 |
| 20 ,, ,, 25 | 7,686 | 85 | 11·06 |
| 25 ,, ,, 30 | 3,493 | 35 | 10·02 |
| 30 ,, ,, 35 | 1,710 | 16 | 9·36 |
| 35 ,, ,, 40 | 1,110 | 5 | 4·50 |
| 40 ,, and over | 365 | 2 | 5·48 |
| Not stated | 60 | ..... | ..... |
| Total | 19,940 | 211 | 10·58 |

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## Deaths.

During the ten years ended 1900, deaths in New South Wales have averaged annually 13·43 per thousand males, and 11·02 per thousand females, or 12·31 per thousand of the population of the state. Compared with the death-rates of other countries, especially those of the Old World, this rate is remarkably low; but, at the same time, it is higher than might be anticipated from the peculiarly healthy climatic conditions which pertain to New South Wales.

The number of deaths registered during 1900 in each of the Commonwealth States and in New Zealand, and the death-rate per 1,000 inhabitants, were as follow :—

| State. | Number of deaths. | Death-rate. |
|---|---|---|
| New South Wales | 15,118 | 11·16 |
| Victoria | 15,215 | 12·75 |
| Queensland | 5,747 | 11·37 |
| South Australia | 3,837 | 10·70 |
| Western Australia | 2,240 | 12·76 |
| Tasmania | 1,902 | 10·70 |
| Commonwealth | 44,059 | 11·70 |
| New Zealand | 7,200 | 9·43 |
| Australasia | 51,259 | 11·36 |

It will be seen that in 1900 the death-rate of New South Wales was lower than the general rate for the Commonwealth, and that New Zealand had a lower rate than any of the Commonwealth provinces. If the mean decennial rates be taken for the period 1891 to 1900 it will be found that the general rate for the Commonwealth was 12·98 per thousand, ranging from 11·92 in South Australia to 15·62 in Western Australia. Only two of the states were above the mean rate, viz., Western Australia with 15·62, and Victoria with 13·88 per thousand. The rates for the other states were—South Australia,

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11·92; New South Wales, 12·31; Queensland, 12·66; and Tasmania, 12·91 per thousand. The mean rate in New Zealand for the period was 9·83, and the general Australasian rate 12·45 per thousand.

In 1899 the death-rate of England and Wales was 18·4 per thousand; of Scotland, 18·7 per thousand; and of Ireland, 17·6 per thousand; while the general rate of the United Kingdom, was 18·3 per thousand. The favourable conditions of Australasia as compared with European countries will be manifest from an inspection of the following rates for the period extending from 1881 to 1899:—

| Country. | 1881–1890. | 1891. | 1892. | 1893. | 1894. | 1895. | 1896. | 1897. | 1898. | 1899. |
|---|---|---|---|---|---|---|---|---|---|---|
| United Kingdom | 19·0 | 20·0 | 19·0 | 19·1 | 16·8 | 18·8 | 17·1 | 17·7 | 17·7 | 18·3 |
| England and Wales | 19·1 | 20·2 | 19·0 | 19·2 | 16·6 | 18·7 | 17·1 | 17·4 | 17·6 | 18·4 |
| Scotland | 19·2 | 20·7 | 18·6 | 19·5 | 17·2 | 19·7 | 16·9 | 18·8 | 18·4 | 18·7 |
| Ireland | 17·9 | 18·4 | 19·4 | 17·9 | 18·2 | 18·4 | 16·6 | 18·4 | 18·1 | 17·6 |
| France | 22·0 | 22·6 | 22·6 | 22·8 | 21·2 | 22·3 | 20·2 | 19·6 | 21·2 | ... |
| Switzerland | 20·8 | 20·4 | 18·8 | 19·9 | 20·0 | 19·1 | 17·7 | 17·6 | 18·2 | 17·6 |
| Italy | 27·3 | 26·3 | 26·4 | 25·4 | 25·2 | 25·3 | 24·3 | 22·2 | 23·2 | 22·2 |
| German Empire | 25·1 | 23·4 | 24·1 | 24·6 | 22·3 | 22·1 | 20·8 | 21·3 | 20·6 | 21·5 |
| Prussia | 24·7 | 23·0 | 23·6 | 24·3 | 22·0 | 21·9 | 20·9 | 21·2 | 20·2 | 21·8 |
| Austria | 29·5 | 27·9 | 28·8 | 27·1 | 27·8 | 27·3 | 26·3 | 25·6 | 24·8 | 25·3 |
| Hungary | 32·4 | 33·2 | 35·0 | 31·1 | 30·4 | 29·6 | 28·8 | 28·5 | 28·0 | 27·1 |
| Netherlands | 21·0 | 20·7 | 21·0 | 19·2 | 18·5 | 18·6 | 17·2 | 16·9 | 17·0 | 17·1 |
| Belgium | 20·3 | 21·2 | 21·8 | 20·3 | 18·6 | 19·5 | 17·5 | 17·2 | 17·6 | 18·8 |
| Denmark | 18·6 | 20·0 | 19·4 | 18·9 | 17·5 | 16·9 | 15·7 | 16·6 | 15·6 | 17·5 |
| Norway | 16·9 | 17·5 | 17·8 | 16·3 | 16·9 | 15·7 | 15·2 | 15·3 | 15·3 | 16·8 |
| Sweden | 17·1 | 16·8 | 17·9 | 16·8 | 16·4 | 15·2 | 15·6 | 15·4 | 15·1 | 17·6 |

In order that a just comparison may be made, the rates for Australia for the same period are given below:—

| State. | 1881–1890. | 1891. | 1892. | 1893. | 1894. | 1895. | 1896. | 1897. | 1898. | 1899. |
|---|---|---|---|---|---|---|---|---|---|---|
| New South Wales | 14·66 | 14·24 | 12·20 | 13·24 | 12·26 | 11·79 | 12·30 | 10·88 | 12·60 | 11·82 |
| Victoria | 15·56 | 16·24 | 13·63 | 14·11 | 13·14 | 13·25 | 13·35 | 12·87 | 16·07 | 14·27 |
| Queensland | 17·04 | 12·77 | 12·66 | 13·34 | 12·08 | 11·38 | 12·10 | 11·33 | 13·40 | 12·88 |
| South Australia | 13·62 | 13·30 | 11·41 | 13·44 | 11·64 | 11·25 | 11·48 | 11·18 | 13·03 | 12·17 |
| Western Australia | 16·59 | 16·62 | 16·46 | 15·27 | 14·69 | 17·50 | 16·53 | 17·63 | 16·46 | 13·70 |
| Tasmania | 15·61 | 15·00 | 13·53 | 13·47 | 12·42 | 11·38 | 11·63 | 11·53 | 13·53 | 12·26 |
| New Zealand | 10·37 | 10·35 | 10·06 | 10·23 | 10·19 | 9·91 | 9·10 | 9·14 | 9·84 | 10·24 |
| Australasia | 14·78 | 14·04 | 12·36 | 13·06 | 12·14 | 11·90 | 12·06 | 11·46 | 13·36 | 12·43 |

There are many causes operating to increase the European rate, which have not yet affected these states. Chief amongst these are the scourges of small-pox and cholera. It is not surprising, therefore, that nearly every country of Europe should have a higher annual death-rate than any part of Australasia. Considering the favourable environments of the population of New South Wales, the matter for surprise is not

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that the difference is so great, but that it is not greater. Apart from climatic conditions, which are most favourable here, the social condition of the great body of the people is far superior to that of Europeans, and their occupations are more healthful; and were it not for the pitiable loss of infant life, the death-rate of this state would not reach much more than half the European average.

As already stated, the death-rate of males in New South Wales averaged 13·43 per thousand during the last ten years, or more than one-sixth higher than that of females. The number of deaths of each of the sexes, with the rate per thousand from 1891 to 1900, is given below:—

| Year. | Number of Deaths. | | | Death-rate per 1,000 of population. | | |
|---|---|---|---|---|---|---|
| | Males. | Females. | Total. | Males. | Females. | Total. |
| 1891 | 9,558 | 6,728 | 16,286 | 15·41 | 12·86 | 14·24 |
| 1892 | 8,544 | 5,866 | 14,410 | 13·38 | 10·81 | 12·20 |
| 1893 | 9,289 | 6,733 | 16,022 | 14·23 | 12·07 | 13·24 |
| 1894 | 8,714 | 6,456 | 15,170 | 13·08 | 11·30 | 12·26 |
| 1895 | 8,671 | 6,243 | 14,914 | 12·77 | 10·66 | 11·79 |
| 1896 | 9,256 | 6,583 | 15,839 | 13·41 | 11·02 | 12·30 |
| 1897 | 8,314 | 5,950 | 14,264 | 11·84 | 9·78 | 10·88 |
| 1898 | 9,636 | 7,025 | 16,661 | 13·47 | 11·34 | 12·48 |
| 1899 | 9,131 | 6,770 | 15,901 | 12·93 | 10·79 | 11·92 |
| 1900 | 8,951 | 6,167 | 15,118 | 12·52 | 9·64 | 11·16 |
| | Mean for 10 years ..... | | | 13·43 | 11·02 | 12·31 |

The principal cause of the greater mortality amongst males is found in the nature of their occupations, with the accidents and exposure attendant thereon. This is especially marked in the country districts of the state, where deaths from accident are extremely numerous, especially among males. Besides this, the greater delicateness of male infants tends to increase their death-rate as compared with that of females. During the ten years 1891–1900 the natural increment to the population by births was in the proportion of 105·41 males to 100 females; but, from the causes alluded to, the net increase of population by excess of births over deaths is largely in favour of females. For the period mentioned the excess of births over deaths averaged annually for males 10,553, and for females 12,104, the net increase being therefore in the proportion of 1,000 males to 1,147 females.

The excess of males in the community, with the consequent larger number of male deaths, makes the comparison appear more favourable to female lives than is actually the case. The following table has been computed on the assumption that the males and females in the community are equal in number, as they soon would be if it were not for the excess of males yearly added to the population by immigration. It

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would appear, however, from the table, that the extra proportion of males born does not counterbalance the extra number of male deaths :—

| Year. | Male deaths. | Female deaths. | Computed male deaths, if male and female population were equal. | Excess of computed male over female deaths. | Excess of male over female births. |
|---|---|---|---|---|---|
| 1891 | 9,558 | 6,728 | 8,080 | 1,352 | 1,314 |
| 1892 | 8,544 | 5,866 | 7,298 | 1,432 | 1,023 |
| 1893 | 9,289 | 6,733 | 7,994 | 1,261 | 1,302 |
| 1894 | 8,714 | 6,456 | 7,548 | 1,092 | 1,022 |
| 1895 | 8,671 | 6,243 | 7,569 | 1,326 | 980 |
| 1896 | 9,256 | 6,583 | 8,133 | 1,550 | 876 |
| 1897 | 8,314 | 5,950 | 7,322 | 1,372 | 731 |
| 1898 | 9,636 | 7,025 | 8,510 | 1,485 | 1,224 |
| 1899 | 9,131 | 6,770 | 8,113 | 1,343 | 765 |
| 1900 | 8,951 | 6,167 | 8,010 | 1,843 | 782 |
| | Total for ten years ..... | | | 14,056 | 10,019 |

As a general rule, the season of the year in which deaths are most numerous is the quarter ending March ; but the number of deaths in the December quarter is nearly as great, and in some years has exceeded that of the first quarter. The deaths in 1891, chiefly owing to a visitation of epidemic influenza, were much more numerous than in 1892, when, compared with the population, they presented a lower rate than for any year since 1861. In 1895 and 1897, however, the death-rate fell to a still lower figure, namely to 11·92 and 11·05 per thousand respectively. Taking the ten years ended 1900, the deaths during each quarter of the year were :—

| Year. | Quarter ending— | | | |
|---|---|---|---|---|
| | 31 March. | 30 June. | 30 September. | 31 December. |
| 1891 | 3,758 | 3,535 | 3,691 | 5,392 |
| 1892 | 3,982 | 3,476 | 3,222 | 3,730 |
| 1893 | 3,710 | 3,616 | 3,859 | 4,837 |
| 1894 | 3,864 | 3,579 | 4,037 | 3,690 |
| 1895 | 3,478 | 3,536 | 3,781 | 4,119 |
| 1896 | 4,894 | 3,642 | 3,619 | 3,684 |
| 1897 | 3,299 | 3,657 | 3,291 | 4,017 |
| 1898 | 4,015 | 3,786 | 4,313 | 4,547 |
| 1899 | 4,018 | 4,024 | 3,395 | 4,464 |
| 1900 | 4,162 | 3,415 | 3,563 | 3,978 |

For the purpose of comparison, the obvious divisions of metropolitan and country districts suggest themselves, and the annual death-rate per

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thousand in each of these divisions of the state for the years 1891–1900 is given in the subjoined table :—

| Year. | Metropolis. | Country Districts. | New South Wales. |
|---|---|---|---|
| 1891 | 16·45 | 13·13 | 14·26 |
| 1892 | 13·54 | 11·58 | 12·24 |
| 1893 | 15·48 | 12·16 | 13·32 |
| 1894 | 13·71 | 11·64 | 12·36 |
| 1895 | 12·47 | 11·63 | 11·92 |
| 1896 | 12·45 | 12·47 | 12·47 |
| 1897 | 11·41 | 10·86 | 11·05 |
| 1898 | 13·61 | 12·19 | 12·69 |
| 1899 | 11·56 | 12·13 | 11·92 |
| 1900 | 11·32 | 11·07 | 11·16 |
| Mean..... | 13·11 | 11·87 | 12·31 |

During the ten years the death-rate for the whole state varied between 11·05 and 14·26—a range of 3·21 per thousand. In the metropolis, however, as will be seen below, the rate varied between 11·32 and 16·45, the range being 5·13 per thousand. In the country districts 10·86 was the lowest rate, and 13·13 the highest, 2·27 being the range :—

| | Per 1,000 of mean population of all ages. | | |
|---|---|---|---|
| Districts. | Maximum. | Minimum. | Mean. |
| Metropolis (Sydney and suburbs)... | 16·45 | 11·32 | 13·11 |
| Country districts ..... | 13·13 | 10·86 | 11·87 |
| New South Wales ..... | 14·26 | 11·05 | 12·31 |

Taking the deaths of persons over 5 years of age during the last ten years, it will be found that the rates for the metropolitan district and the country are not only more favourable, but more equal than those for all persons :—

| | Per 1,000 of mean population over 5 years. | | |
|---|---|---|---|
| Districts. | Maximum. | Minimum. | Mean. |
| Metropolis (Sydney and suburbs)... | 10·93 | 8·85 | 8·94 |
| Country districts ..... | 9·57 | 7·87 | 8·68 |
| New South Wales ..... | 10·03 | 8·25 | 8·77 |

Turning to deaths of children under 5 years, the chief factor of the excessive death-rate of the city and suburbs will be found :—

| | Per 1,000 of mean population under 5 years. | | |
|---|---|---|---|
| Districts. | Maximum. | Minimum. | Mean. |
| Metropolis (Sydney and suburbs)... | 56·45 | 32·05 | 41·08 |
| Country districts ..... | 35·45 | 26·28 | 33·26 |
| New South Wales..... | 39·94 | 29·17 | 36·01 |

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The lesson conveyed by the above table is a very striking one. The minimum death-rate of infants in the metropolis was 5·77 per thousand greater than the minimum rate of the country, and the mean rate of the country was little more than three-fourths of the metropolitan. When the circumstances of life in the country districts are considered, the distance sick persons are removed from the comforts, and even the necessaries which sickness demands, the full meaning of the low rate, both for adults and for children, will best be understood. No more potent argument could be advanced as to the natural salubrity of the state than the returns of the death-rates as recorded outside the walls of the metropolis.

All satisfaction, however, in regard to the low death-rate is confined to the country districts. So far as Sydney and its suburbs are concerned, there is no cause for congratulation; on the contrary, the rate at which children of tender years drop into the grave forms a pathetic commentary on the civilisation of the state. Since 1880, however, there has been a large decrease in the metropolitan average, the proportion having declined from 77·45, for the five years ending 1880, to 37·91 for the period ending with 1900. The following quinquennial table has been compiled in order to illustrate the gradual change which has taken place since 1871 :—

| Quinquennial period. | Metropolis. | Country Districts. | New South Wales. |
|---|---|---|---|
| | *All ages.* | | |
| 1871–75 | 20·91 | 12·77 | 14·99 |
| 1876–80 | 21·46 | 13·96 | 16·10 |
| 1881–85 | 20·77 | 13·46 | 15·70 |
| 1886–90 | 17·94 | 11·82 | 13·80 |
| 1891–95 | 15·18 | 11·60 | 12·77 |
| 1896–1900 | 13·04 | 11·18 | 10·27 |
| | *Over 5 years.* | | |
| 1871–75 | 12·72 | 9·25 | 10·21 |
| 1876–80 | 12·82 | 9·86 | 10·73 |
| 1881–85 | 12·56 | 9·50 | 11·40 |
| 1886–90 | 10·93 | 8·49 | 9·27 |
| 1891–95 | 9·91 | 8·45 | 8·93 |
| 1896–1900 | 9·41 | 8·31 | 8·67 |
| | *Under 5 years.* | | |
| 1871–75 | 66·28 | 30·55 | 39·78 |
| 1876–80 | 77·45 | 35·80 | 46·36 |
| 1881–85 | 73·35 | 35·99 | 46·63 |
| 1886–90 | 58·12 | 31·68 | 40·04 |
| 1891–95 | 46·93 | 30·06 | 35·47 |
| 1896–1900 | 37·91 | 31·23 | 33·44 |

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The following table shows the mortality in the metropolitan and country districts during ten years; the figures for previous years will be found in earlier editions of this book. In the first part of the table will be found the actual number of deaths, and in the second the proportion of deaths of children under 5 years and of persons over that age, as compared with the population:—

| Year. | Children under 5 years. | | | Persons over 5 years. | | |
|---|---|---|---|---|---|---|
| | Metropolis. | Country. | N.S.W. | Metropolis. | Country. | N.S.W. |
| | | | NUMBER OF DEATHS. | | | |
| 1891 | 2,821 | 3,689 | 6,510 | 3,599 | 6,177 | 9,776 |
| 1892 | 2,446 | 3,381 | 5,827 | 3,066 | 5,517 | 8,583 |
| 1893 | 3,157 | 3,915 | 7,072 | 3,327 | 5,623 | 8,950 |
| 1894 | 2,448 | 3,465 | 5,913 | 3,440 | 5,817 | 9,257 |
| 1895 | 2,238 | 3,310 | 5,548 | 3,247 | 6,119 | 9,366 |
| 1896 | 2,234 | 3,691 | 5,925 | 3,355 | 6,559 | 9,914 |
| 1897 | 1,977 | 2,963 | 4,940 | 3,243 | 6,081 | 9,324 |
| 1898 | 2,698 | 3,590 | 6,288 | 3,665 | 6,708 | 10,373 |
| 1899 | 1,880 | 3,882 | 5,762 | 3,631 | 6,508 | 10,139 |
| 1900 | 1,659 | 3,216 | 4,875 | 3,843 | 6,400 | 10,243 |
| | | | RATE PER 1,000 OF MEAN POPULATION. | | | |
| 1891 | 51·65 | 32·62 | 38·82 | 10·93 | 9·57 | 10·03 |
| 1892 | 44·12 | 28·76 | 33·69 | 9·17 | 8·22 | 8·54 |
| 1893 | 56·45 | 32·32 | 39·94 | 9·87 | 8·13 | 8·70 |
| 1894 | 43·44 | 28·53 | 33·26 | 10·13 | 8·15 | 8·79 |
| 1895 | 39·26 | 28·15 | 31·78 | 9·45 | 8·28 | 8·65 |
| 1896 | 38·39 | 32·52 | 34·51 | 9·61 | 8·66 | 8·96 |
| 1897 | 34·91 | 26·28 | 29·17 | 9·07 | 7·87 | 8·25 |
| 1898 | 49·16 | 32·38 | 37·94 | 9·98 | 8·50 | 8·97 |
| 1899 | 34·73 | 35·45 | 35·21 | 9·59 | 8·10 | 8·58 |
| 1900 | 32·05 | 29·59 | 30·37 | 8·85 | 8·43 | 8·58 |

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The next table gives the number of children under 1 year dying in the metropolis and country, and the proportion per thousand births. This latter approximately represents the proportion of children who died within a year after birth :—

| Year. | Metropolis. | | Country Districts. | | New South Wales. | |
|---|---|---|---|---|---|---|
| | Deaths under 1. | Per 1,000 births. | Deaths under 1. | Per 1,000 births. | Deaths under 1. | Per 1,000 births. |
| 1889 | 2,301 | 172·4 | 2,371 | 99·0 | 4,672 | 125·3 |
| 1890 | 1,823 | 155·4 | 2,249 | 88·4 | 4,072 | 104·5 |
| 1891 | 2,075 | 148·1 | 2,616 | 102·8 | 4,691 | 118·9 |
| 1892 | 1,832 | 130·2 | 2,413 | 92·9 | 4,245 | 106·0 |
| 1893 | 2,048 | 146·7 | 2,592 | 98·2 | 4,640 | 115·0 |
| 1894 | 1,765 | 132·0 | 2,483 | 97·0 | 4,248 | 109·1 |
| 1895 | 1,669 | 130·8 | 2,437 | 93·7 | 4,106 | 105·9 |
| 1896 | 1,710 | 139·0 | 2,725 | 112·6 | 4,435 | 121·5 |
| 1897 | 1,551 | 129·1 | 2,250 | 89·2 | 3,801 | 102·0 |
| 1898 | 1,826 | 153·2 | 2,592 | 106·6 | 4,418 | 121·9 |
| 1899 | 1,473 | 120·4 | 2,856 | 117·9 | 4,329 | 118·7 |
| 1900 | 1,322 | 109·0 | 2,514 | 100·5 | 3,836 | 103·3 |
| Mean..... | ..... | 134·3 | ..... | 100·9 | ..... ... | 112·2 |

A more precise classification of the ages of the 3,836 children under 1 year, who died in 1900, is appended :—

| Ages. | Metropolis. | Country. | New South Wales. |
|---|---|---|---|
| Under 1 month ..... | 409 | 826 | 1,235 |
| 1 month..... ..... | 141 | 273 | 414 |
| 2 months ..... | 116 | 211 | 327 |
| 3 ,, ..... | 109 | 213 | 322 |
| 4 ,, ..... ..... | 108 | 217 | 325 |
| 5 ,, ..... ..... | 91 | 172 | 263 |
| 6 ,, ..... | 74 | 139 | 213 |
| 7 ,, ..... | 56 | 97 | 153 |
| 8 ,, ..... | 66 | 117 | 183 |
| 9 ,, ..... ..... | 61 | 107 | 168 |
| 10 ,, ..... ..... | 54 | 70 | 124 |
| 11 ,, ..... | 37 | 72 | 109 |
| Total..... | 1,322 | 2,514 | 3,836 |

The experience of the United Kingdom shows that infant mortality is always higher in large towns than in rural districts; and the experience of this state is somewhat similar. But though the conditions of life in England are more favourable in rural districts than in the towns, the same is not necessarily the case here. In sparsely-scattered communities, such as the country districts of New South Wales mainly comprise, it is frequently impossible to obtain for children of tender years articles which in towns are considered, and rightly so, almost necessaries of life. Were it not, therefore, for the contagions which seem incidental

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to towns, the death-rate of children might naturally be expected to be, so far as this state is concerned, higher in the country than in the city. That such is not the case is evident from the foregoing table. But compared with the rates of infant mortality in the other states, those of New South Wales, if the division into urban and rural population in each state be taken into consideration, seem fairly satisfactory, as will be seen on reference to the following table, which gives the mean annual rates calculated for the period of ten years ended 1900 :—

| State. | Deaths of children under 1 year per 1,000 births. |
|---|---|
| New South Wales | 112·2 |
| Victoria | 115·0 |
| Queensland | 103·1 |
| South Australia | 105·3 |
| Western Australia | 147·9 |
| Tasmania | 95·5 |
| Commonwealth | 111·5 |
| New Zealand | 83·7 |
| Australasia | 107·3 |

Compared with the rates obtaining in most European countries, those for the Australasian provinces appear very favourable, as the subjoined table shows :—

| Country. | Deaths of children under 1 year per 1,000 births. | Country. | Deaths of children under 1 year per 1,000 births. |
|---|---|---|---|
| England and Wales | 146·4 | Saxony | 282·8 |
| Scotland | 122·3 | Austria | 247·3 |
| Ireland | 96·4 | Hungary | 255·5 |
| France | 168·3 | Holland | 174·5 |
| Switzerland | 159·3 | Belgium | 162·9 |
| Italy | 190·4 | Denmark | 136·1 |
| Prussia | 207·5 | Norway | 96·3 |
| Bavaria | 279·0 | Sweden | 107·1 |

The general salubrity of the state may be taken as well established, and if the deaths in Sydney and suburbs, especially amongst young children, were not relatively more numerous than those in the rest of the state, New South Wales would have no need to fear comparison with any country.

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The comparatively high death-rates of Sydney certainly do not arise from natural causes. Seated on the hilly shores of Port Jackson, its situation is all that could be desired, and the configuration of the ground on which it stands is especially adapted to the requirements of a perfect drainage system. What Nature with lavish hand had bestowed, was, however, until recently, in danger of being destroyed or polluted; for looking through the causes of death the conclusion is inevitable that no small part of the mortality of Sydney and its suburbs arose, primarily or indirectly, from diseases which sanitary precautions might have averted.

Amongst the Australasian capital cities, Wellington stands first with the lowest death-rate; and, over a period of years, there is not a great difference between the rates of the chief cities on the continent of Australia, leaving Perth out of consideration. The rates for a single year, however, do not present equal uniformity, as will be seen by the following figures for 1900:—Perth, 14·72; Melbourne, 14·26; Adelaide, 13·10; Hobart, 13·00; Sydney, 11·87; Brisbane, 11·38; and Wellington, 8·91. Of course the suburbs of the various cities are included in these calculations. Compared with cities in other parts of the world, the result is generally favourable to Australasia. The following table shows the mean death-rate of the chief Australasian, European, and American cities for a period of years:—

*Australasia.*

| | Annual Death-rate. | | Annual Death-rate. | | Annual Death-rate. |
|---|---|---|---|---|---|
| Hobart | 20·99 | Brisbane | 16·67 | Sydney | 14·98 |
| Perth | 20·66 | Adelaide | 15·41 | Wellington | 13·93 |
| Melbourne | 17·77 | | | | |

*United Kingdom.*

| | | | | | |
|---|---|---|---|---|---|
| Dublin | 27·10 | Plymouth | 22·30 | Birmingham | 19·80 |
| Liverpool | 26·70 | Newcastle | 21·80 | Portsmouth | 19·70 |
| Cork | 26·10 | Sheffield | 21·60 | Bristol | 19·60 |
| Manchester | 25·50 | London | 21·10 | Brighton | 19·00 |
| Glasgow | 25·30 | Edinburgh | 20·20 | | |

*Continental Europe.*

| | | | | | |
|---|---|---|---|---|---|
| St. Petersburg | 51·40 | Paris | 28·60 | Amsterdam | 23·70 |
| Madrid | 37·40 | Berlin | 27·60 | Rotterdam | 23·30 |
| Budapest | 35·20 | Rome | 26·80 | Venice | 22·70 |
| Munich | 32·80 | Cologne | 26·20 | The Hague | 22·40 |
| Breslau | 32·50 | Leipzig | 26·10 | Copenhagen | 22·10 |
| Prague | 32·30 | Stockholm | 24·70 | Geneva | 21·20 |
| Milan | 30·60 | Hamburg | 24·50 | Christiania | 18·80 |
| Vienna | 29·00 | Brussels | 23·90 | | |

*America.*

| | | | | | |
|---|---|---|---|---|---|
| Montreal | 37·20 | New Orleans | 22·70 | Philadelphia | 20·30 |
| New York | 26·20 | Toronto | 21·50 | St. Louis | 19·30 |
| Brooklyn | 25·60 | Baltimore | 21·10 | San Francisco | 18·10 |
| Boston | 23·50 | | | | |

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This list is fairly representative, and largely as the rate for Sydney is swollen by the deaths of children of tender years, whose lives are often needlessly sacrificed, the comparison is satisfactory.

The following table shows the numbers of deaths at all ages during the year 1900 :—

| Age Groups. | Males. | Females. | Total. |
|---|---|---|---|
| Under 3 months ..... ..... | 1,095 | 881 | 1,976 |
| 3 months and under 6 ... | 500 | 410 | 910 |
| 6 ,, ,, 12 .. | 499 | 451 | 950 |
| 1 year ..... | 325 | 303 | 628 |
| 2 years ..... | 89 | 96 | 185 |
| 3 ,, ..... | 72 | 64 | 136 |
| 4 ,, ..... | 48 | 42 | 90 |
| 5 years and under 10..... | 186 | 147 | 333 |
| 10 ,, ,, 15... .. | 160 | 126 | 286 |
| 15 ,, ,, 20..... | 240 | 158 | 398 |
| 20 years ..... | 61 | 42 | 103 |
| 21 years and under 25..... | 261 | 197 | 458 |
| 25 ,, ,, 30..... | 299 | 252 | 551 |
| 30 ,, ,, 35..... | 295 | 285 | 580 |
| 35 ,, ,, 40..... | 371 | 279 | 650 |
| 40 ,, ,, 45..... | 460 | 249 | 709 |
| 45 ,, ,, 50..... | 465 | 215 | 680 |
| 50 ,, ,, 55..... | 364 | 214 | 578 |
| 55 ,, ,, 60..... | 475 | 245 | 720 |
| 60 ,, ,, 65..... | 575 | 289 | 864 |
| 65 ,, ,, 70..... | 620 | 306 | 926 |
| 70 ,, ,, 75..... | 535 | 272 | 807 |
| 75 ,, ,, 80..... | 392 | 258 | 650 |
| 80 ,, ,, 85..... | 341 | 227 | 568 |
| 85 ,, ,, 90 ..... | 143 | 102 | 245 |
| 90 ,, ,, 95..... | 49 | 33 | 82 |
| 95 ,, ,, 100..... | 14 | 18 | 32 |
| 100 years and upwards..... | 9 | 5 | 14 |
| Not stated (adults) ..... .. | 8 | 1 | 9 |
| Total..... | 8,951 | 6,167 | 15,118 |

The number of persons of the age of 70 years and upwards who died during the year was 2,398, and of these 1,483 were males and 915 females. There were 1,457 between the ages of 70 and 80 years ; 813 between 80 and 90 years; 114 between 90 and 100 years ; and 14 centenarians.



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The birthplaces of the 123,889 persons who died in New South Wales during the eight years 1893–1900, are shown in the following table :—

| Birthplaces. | Males. | Females. | Total. |
|---|---|---|---|
| Commonwealth of Australia and New Zealand. | | | |
| New South Wales.... | 37,632 | 33,808 | 71,440 |
| Victoria ..... | 1,595 | 1,172 | 2,767 |
| Queensland ..... | 357 | 300 | 657 |
| South Australia .... | 703 | 534 | 1,237 |
| Western Australia .. | 21 | 18 | 39 |
| Tasmania ..... | 349 | 239 | 588 |
| New Zealand ..... | 240 | 209 | 449 |
| Total ..... | 40,897 | 36,280 | 77,177 |
| United Kingdom— | | | |
| England ..... | 13,909 | 6,933 | 20,842 |
| Wales ..... | 512 | 206 | 718 |
| Scotland ..... | 3,576 | 1,747 | 5,323 |
| Ireland ..... | 7,287 | 5,767 | 13,054 |
| Total ..... | 25,284 | 14,653 | 39,937 |
| Other British Possessions | | | |
| India ..... | 201 | 70 | 271 |
| African Possessions.. | 57 | 22 | 79 |
| North American Possessions ..... | 151 | 20 | 171 |
| West Indies ..... | 89 | 24 | 113 |
| Other Possessions.... | 106 | 29 | 135 |
| Total ..... | 604 | 165 | 769 |

| Birthplaces. | Males. | Females. | Total. |
|---|---|---|---|
| European Countries and Dependencies— | | | |
| German Empire .... | 1,168 | 378 | 1,546 |
| France ..... | 248 | 53 | 301 |
| Austria-Hungary .... | 71 | 6 | 77 |
| Russia ..... | 131 | 19 | 150 |
| Italy ..... | 142 | 18 | 160 |
| Sweden and Norway.. | 414 | 17 | 431 |
| Other Countries .... | 498 | 63 | 561 |
| Total ..... | 2,672 | 554 | 3,226 |
| Other Foreign Countries | | | |
| China ..... | 1,150 | 3 | 1,153 |
| Other Asiatic Countries ..... | 22 | .. | 22 |
| African Countries.... | 9 | 1 | 10 |
| United States..... | 349 | 57 | 406 |
| South American Countries ..... | 23 | 4 | 27 |
| Polynesia..... | 62 | 7 | 69 |
| Total ..... | 1,615 | 72 | 1,687 |
| Born at Sea ..... | 109 | 89 | 198 |
| Birthplace not stated .. | 781 | 114 | 895 |
| Total .... ..... | 71,962 | 51,927 | 123,889 |

Of these 123,889 persons, 77,177 were natives of Australasia, and it will be seen that in 895 cases the birthplace of the deceased was not stated. Of the remaining 45,817 persons, information was supplied respecting the length of residence in Australasia of 43,779, and from the particulars given, the following table has been compiled :—

| Length of Residence in Commonwealth and New Zealand. | Males. | | | Females. | | | Total Males and Females. |
|---|---|---|---|---|---|---|---|
| | Under 21 years | Adults. | Total. | Under 21 years | Adults. | Total. | |
| Under 1 year ..... | 81 | 431 | 512 | 28 | 62 | 90 | 602 |
| 1 year and under 5... | 57 | 708 | 765 | 29 | 228 | 257 | 1,022 |
| 5 years and under 10 .. | 55 | 1,289 | 1,344 | 62 | 624 | 686 | 2,030 |
| 10 ,, ,, 15... | 91 | 2,352 | 2,443 | 79 | 1,147 | 1,226 | 3,669 |
| 15 ,, ,, 20... | 46 | 2,221 | 2,267 | 28 | 1,019 | 1,047 | 3,314 |
| 20 years and upwards.. | ... | 21,247 | 21,247 | ... | 11,895 | 11,895 | 33,142 |
| Total ..... | 330 | 28,248 | 28,578 | 226 | 14,975 | 15,201 | 43,779 |

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Amongst the persons whose term of residence is set down as 20 years and upwards, are included 17 natives of England, of whom one had been residing in the Australasian colonies for 90 years, one for 89 years, one for 88 years, one for 85 years, two for 84 years, one for 81 years, and ten for 80 years; a native of Wales who had been living in the colonies for 85 years, and three others 84, 83, and 82 years respectively; two natives of Scotland, one of whom had arrived 86 years and the other 84 years ago; ten natives of Ireland, of whom one had lived in the colonies for 89 years, one for 88 years, one for 87 years, one for 86 years, two for 84 years, two for 83 years, and four for 80 years; one female, born at sea, had been residing in the colonies for 89 years, and another for 80 years. Of the 4,913 persons born in foreign countries who died in New South Wales during the eight years 1893–1900, thirty-six had lived in the colonies for more than 60 years.

## Causes of Death.

The system of classifying causes of death proposed by the late Dr. William Farr, F.R.S., in conjunction with Dr. Marc d'Espine, which was in vogue in the United Kingdom and these states for over a quarter of a century, has within the last few years been abandoned in favour of one arranged by Dr. William Ogle, Dr. Farr's successor as Registrar-General of England, upon the basis of a mode of classification determined upon by a committee appointed by the Royal College of Physicians, London; and whilst the latter system includes a few important deviations from the former, the changes on the whole are in the direction of amplification, the admirable system of Dr. Farr still forming the groundwork of the classification.

The number of deaths in New South Wales from each cause during the year 1900 is here given, together with the proportion which each class bears to the total:—

| Class. | Causes of Death. | Under 5 Years. | | 5 Years and Over. | | Total. | Proportion per cent. |
|---|---|---|---|---|---|---|---|
| | | Male. | Female. | Male. | Female. | | |
| I. | Specific febrile or zymotic diseases | 357 | 326 | 555 | 439 | 1 677 | 11·99 |
| II. | Parasitic diseases | 10 | 9 | 25 | 16 | 60 | 0·40 |
| III. | Dietetic diseases | 24 | 16 | 94 | 25 | 159 | 1·05 |
| IV. | Constitutional diseases | 137 | 106 | 1,218 | 871 | 2,332 | 15·43 |
| V. | Developmental diseases | 352 | 309 | 675 | 372 | 1,708 | 11·30 |
| VI. | Local diseases | 1,254 | 1,067 | 2,936 | 1,977 | 7,234 | 47·85 |
| VII. | Violence | 121 | 108 | 798 | 199 | 1,226 | 8·11 |
| VIII. | Ill-defined and not specified causes | 373 | 306 | 22 | 21 | 722 | 4·77 |
| | All causes | 2,628 | 2,247 | 6,323 | 3,920 | 15,118 | 100·00 |

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### *Class I.—Specific Febrile or Zymotic Diseases.*

Order 1. *Miasmatic Diseases.*—Chicken-pox, 2; measles, 9; epidemic rose rash, 1; scarlet fever, 9; influenza, 197; whooping-cough, 106; diphtheria, 63; simple continued fever, 3; typhoid, enteric fever, 398; bubonic plague, 104; cerebro-spinal fever, 1.

Order 2. *Diarrhœal Diseases.*—Cholera, cholera infantum, 53; diarrhœa, 447; dysentery, 68.

Order 3. *Malarial Diseases.*—Remittent fever, 1; intermittent fever, ague, 2; beri beri, 4.

Order 4. *Zoogenous Diseases.*—Splenic fever, 2.

Order 5. *Venereal Diseases.*—Syphilis (including congenital), 54; stricture of urethra, 3.

Order 6. *Septic Diseases.*—Erysipelas, 23; pyæmia, septicæmia, 47; puerperal fever, 75.

### *Class II.—Parasitic Diseases.*

Thrush, 18; hydatids, 41; worms, 1.

### *Class III.—Dietetic Diseases.*

Starvation, privation, 25; malnutrition, 35; scurvy, 5; intemperance—(*a*) chronic alcoholism, 69; (*b*) delirium tremens, 19; (*c*) opium smoking, 3; (*d*) morphia mania, 2; surfeit (over-eating), 1.

### *Class IV.—Constitutional Diseases.*

Rheumatic fever, rheumatism of heart, 49; rheumatism, 31; gout, 26; rickets, 11; cancer, 765; tabes mesenterica, 117; tubercular meningitis (acute hydrocephalus), 94; phthisis, 1,077; other forms of tuberculosis, scrofula, 34; purpura, hæmorrhagic diathesis, 17; anæmia, chlorosis, leucocythæmia, 58; diabetes mellitus, 50; leprosy, 3.

### *Class V.—Developmental Diseases.*

Premature birth, 528; atelectasis, 38; cyanosis, 25; spina bifida, 18; imperforate anus, 12; cleft palate, harelip, 6; other congenital defects, 38; old age, 1,043.

### *Class VI.—Local Diseases.*

Order 1. *Diseases of the Nervous System.*—Inflammation of the brain or its membranes, 200; apoplexy, 376; softening of the brain, 48; hemiplegia, brain paralysis, 133; paralysis agitans, 10; insanity, general paralysis of the insane, 114; chorea, 2; epilepsy, 90; convulsions, 380; laryngismus stridulus, 5; idiopathic tetanus, 10; paraplegia, disease of the spinal cord, 104; congestion of brain, 12; brain diseases (undefined), 51.

Order 2. *Diseases of the Organs of Special Sense.*—Otitis, otorrhœa, disease of the ear, 9; epistaxis, disease of the nose, 2; ophthalmia, disease of the eye, 1.

Order 3. *Diseases of the Circulatory System.*—Endocarditis, valvular disease, 344; pericarditis, 33; hypertrophy of heart, 10; angina pectoris, 32; syncope, 224; aneurism, 64; senile gangrene, 32; embolism, thrombosis, 33; phlebitis, 6; varicose veins, 2; heart disease (undefined), 482.

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Order 4. *Diseases of the Respiratory System.*—Laryngitis, 27 ; croup, 25 ; other diseases of larynx and trachea, 11 ; asthma, emphysema, 99 ; bronchitis, 509 ; pneumonia, 787 ; congestion of the lungs, 51 ; pleurisy, 81 ; lung disease (undefined), 23.

Order 5. *Diseases of the Digestive System.*—Stomatitis, 8 ; dentition, 53 ; sore throat, quinsy, 16 ; dyspepsia, 14 ; hæmatemesis, 8 ; melæna, 6 ; diseases of the stomach, 86 ; enteritis, 1,019 ; ulceration of intestine, 88 ; ileus, obstruction of intestine, 62 ; stricture or strangulation of intestine, 9 ; intussusception of intestine, 35 ; hernia, 46 ; fistula, 2 ; peritonitis, 98 ; ascites, 20 ; gallstones, 21 ; cirrhosis of liver, 109 ; hepatitis, 33 ; jaundice, 42 ; congestion of liver, 17 ; other diseases of liver, 41 ; other diseases of digestive system, 15.

Order 6. *Diseases of the Lymphatic System and Ductless Glands.*—Diseases of lymphatic system, 11 ; diseases of spleen, 2 ; bronchocele, 9 ; Addison's disease, 4.

Order 7. *Diseases of the Urinary System.*—Acute Nephritis, 80 ; Bright's disease, 338 ; uræmia, 70 ; suppression of urine, 15 ; calculus, 12 ; haematuria, 2 ; diseases of bladder and of prostate, 96 ; others, and kidney disease (undefined), 13.

Order 8. *Diseases of the Organs of Generation.*—Ovarian disease, 20 ; disease of uterus and vagina, 17 ; disorders of menstruation, 3 ; pelvic abscess, 5 ; perineal abscess, 1 ; diseases of testes, penis, scrotum, 2.

Order 9. *Diseases of Parturition.*—Abortion, miscarriage, 49 ; puerperal mania, 2 ; puerperal convulsions, 28 ; placenta prævia, flooding, 39 ; other casualties of childbirth, 73.

Order 10. *Diseases of the Organs of Locomotion.*—Caries, necrosis, 22 ; arthritis, ostitis, periostitis, 7 ; joint disease, curvature of spine, 3.

Order 11. *Diseases of the Integumentary System.*—Carbuncle, 6 ; phlegmon, cellulitis, 13 ; lupus, 1 ; ulcer, bed sores, 1 ; eczema, 13 ; pemphigus, 3 ; dermatitis, etc., 4.

### *Class VII.—Violence.*

Order 1. *Accident or Negligence.*—Fractures and contusions, 421 ; gunshot wounds, 26 ; cuts (tetanus), 22 ; burns, scalds, 137 ; lightning, 8 ; sunstroke, 58 ; poison, 22 ; bite of snake or insect, 10 ; drowning, 188 ; suffocation, 38 ; injury at birth, 14 ; cross-birth, 1 ; umbilical hæmorrhage, 7 ; blood-poisoning, 8 ; collapse under chloroform, 10 ; gas explosion, 1 ; explosion of gun cartridge, 1 ; dynamite explosion, 10 ; injury by bullock, 2 ; ptomaine poisoning, 5 ; eating unripe fruit, 1 ; perished in snow, 2.

Order 2. *Homicide.*—Murder, 34 ; manslaughter, 16.

Order 3. *Suicide.*—Gunshot wounds, 41 ; cut, stab, 20 ; poison, 34 ; drowning, 29 ; hanging, 17 ; jumping from a height, 4.

Order 4. *Execution.*—Judicial Hanging, 1.

Order 5. *Violent Deaths not classed.*—Found drowned, 38.

### *Class VIII.—Ill-defined and not Specified Causes.*

Dropsy, 29 ; atrophy, debility, inanition, 675 ; tumour, 1 ; abscess, 1 ; other ill-defined and not specified causes, 16.

Males, 8,951 ; Females, 6,167. Total, 15,118.

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From the foregoing it will be seen that the number of deaths from phthisis in the state during 1900 was greater than that from any other disease. The mortality rate per 10,000 living from this cause was, however, lower for the five years ending 1900 than for any previous five-year period since 1871. The fatal cases of cancer were 765, equal to a rate of 5·65 per 10,000 living. Further reference to these diseases will be found in succeeding pages.

The following are the principal causes of death, arranged in order of fatality:—

| | Number of deaths. |
|---|---|
| Phthisis | 1,077 |
| Old age | 1,043 |
| Enteritis | 1,019 |
| Accidents | 992 |
| Heart disease (exclusive of endocarditis, pericarditis, and aneurism) | 821 |
| Pneumonia | 787 |
| Cancer | 765 |
| Atrophy, debility, inanition (infants) | 675 |
| Premature birth | 528 |
| Bronchitis | 509 |
| Diarrhœa | 447 |
| Typhoid, enteric fever | 398 |
| Convulsions | 380 |
| Endocarditis, pericarditis | 377 |
| Apoplexy | 376 |
| Bright's disease | 338 |
| Diseases of the urinary system (exclusive of Bright's disease) | 288 |
| Childbirth, puerperal fever | 266 |
| Liver diseases | 263 |
| Inflammation of the brain or of its membranes | 200 |
| Influenza | 197 |
| Suicide | 145 |
| Malformations (ateleotasis, cyanosis, spina bifida, &c.) | 137 |
| Hemiplegia, brain paralysis | 133 |
| Tabes mesenterica | 117 |
| Insanity, general paralysis of insane | 114 |
| Whooping cough | 106 |
| Bubonic plague | 104 |
| Paraplegia, diseases of spinal cord | 104 |
| Asthma | 99 |
| Peritonitis | 98 |
| Tubercular meningitis (acute hydrocephalus) | 94 |
| Intemperance | 93 |
| Epilepsy | 90 |
| Ulceration of intestine | 88 |
| Diseases of stomach | 86 |
| Pleurisy | 81 |
| Dysentery | 68 |
| Aneurism | 64 |
| Diphtheria | 63 |
| Ileus, obstruction of intestine | 62 |
| Anæmia, chlorosis, leucocythæmia | 58 |
| Syphilis | 54 |
| Cholera, cholera infantum | 53 |
| Dentition | 53 |
| Brain Disease (undefined) | 51 |
| Congestion of lungs | 51 |
| Diabetes mellitus | 50 |
| Rheumatic fever (rheumatism of heart) | 49 |
| Softening of brain | 48 |
| Pyæmia, septicæmia | 47 |
| Hernia | 46 |
| Hydatids | 41 |
| Found drowned (open verdict) | 38 |
| Malnutrition | 35 |
| Intussusception of intestine | 35 |
| Tuberculosis, scrofula | 34 |
| Murder | 34 |
| Rheumatism | 31 |
| Dropsy | 29 |
| Erysipelas | 28 |
| Laryngitis | 27 |
| Gout | 26 |
| Privation, starvation | 25 |
| Croup | 25 |
| Lung disease (undefined) | 23 |
| Caries, Necrosis | 22 |
| Ascites | 20 |
| Ovarian disease | 20 |
| Thrush | 18 |
| Diseases of uterus and vagina | 17 |
| Purpura, hæmorrhagic diathesis | 16 |
| Sore throat, quinsy | 16 |
| Manslaughter | 16 |
| Dyspepsia | 14 |

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**Below will be found a comparison of the deaths due to each class of disease during the eight years ended 1900 :—**

| Causes of Death. | 1893. | | | 1894. | | | 1895. | | | 1896. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Deaths. | Percentage. | Per 1,000 living. | Deaths. | Percentage. | Per 1,000 living. | Deaths. | Percentage. | Per 1,000 living. | Deaths. | Percentage. | Per 1,000 living. |
| Specific febrile, or zymotic diseases. | 2,801 | 18·05 | 2·40 | 2,622 | 17·28 | 2·14 | 2,228 | 14·94 | 1·78 | 2,286 | 14·43 | 1·80 |
| Parasitic diseases.. | 87 | 0·54 | 0·07 | 74 | 0·49 | 0·06 | 69 | 0·46 | 0·06 | 73 | 0·46 | 0·06 |
| Dietetic diseases .. | 132 | 0·82 | 0·11 | 166 | 1·10 | 0·13 | 199 | 1·34 | 0·16 | 212 | 1·34 | 0·17 |
| Constitutional diseases ..... | 2,143 | 13·38 | 1·78 | 2,135 | 14·08 | 1·74 | 2,180 | 14·62 | 1·74 | 2,243 | 14·16 | 1·76 |
| Developmental diseases ..... | 1,449 | 9·04 | 1·21 | 1,419 | 9·35 | 1·16 | 1,480 | 9·92 | 1·18 | 1,492 | 9·42 | 1·17 |
| Local diseases .... | 7,203 | 44·96 | 5·99 | 6,841 | 45·10 | 5·58 | 6,896 | 46·24 | 5·51 | 7,323 | 46·24 | 5·76 |
| Violence ..... | 1,133 | 7·07 | 0·94 | 1,094 | 7·20 | 0·89 | 1,128 | 7·56 | 0·90 | 1,367 | 8·63 | 1·07 |
| Ill-defined and not specified causes.. | 984 | 6·14 | 0·82 | 819 | 5·40 | 0·67 | 734 | 4·92 | 0·59 | 843 | 5·32 | 0·67 |
| Total ..... | 16,022 | 100·00 | 13·32 | 15,170 | 100·00 | 12·37 | 14,914 | 100·00 | 11·92 | 15,839 | 100·00 | 12·46 |

| Causes of Death. | 1897. | | | 1898. | | | 1899. | | | 1900. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Deaths. | Percentage. | Per 1,000 living. | Deaths. | Percentage. | Per 1,000 living. | Deaths. | Percentage. | Per 1,000 living. | Deaths. | Percentage. | Per 1,000 living. |
| Specific febrile, or zymotic diseases. | 1,692 | 11·86 | 1·31 | 2,754 | 16·53 | 2·10 | 2,278 | 14·33 | 1·71 | 1,677 | 11·09 | 1·24 |
| Parasitic diseases.. | 66 | 0·46 | 0·05 | 81 | 0·49 | 0·06 | 84 | 0·53 | 0·06 | 60 | 0·40 | 0·04 |
| Dietetic diseases .. | 155 | 1·09 | 0·12 | 177 | 1·06 | 0·14 | 195 | 1·23 | 0·15 | 159 | 1·05 | 0·12 |
| Constitutional diseases ..... | 2,211 | 15·50 | 1·71 | 2,427 | 14·57 | 1·85 | 2,462 | 15·48 | 1·84 | 2,332 | 15·43 | 1·72 |
| Developmental diseases ..... | 1,487 | 10·43 | 1·15 | 1,578 | 9·47 | 1·20 | 1,664 | 10·46 | 1·25 | 1,708 | 11·30 | 1·26 |
| Local diseases .... | 6,758 | 47·38 | 5·24 | 7,741 | 46·46 | 5·90 | 7,429 | 46·72 | 5·57 | 7,234 | 47·85 | 5·34 |
| Violence ..... | 1,166 | 8·17 | 0·90 | 1,121 | 6·73 | 0·85 | 1,119 | 7·04 | 0·84 | 1,226 | 8·11 | 0·91 |
| Ill-defined and not specified causes.. | 729 | 5·11 | 0·57 | 782 | 4·69 | 0·60 | 670 | 4·21 | 0·50 | 722 | 4·77 | 0·53 |
| Total .. ..... | 14,264 | 100·00 | 11·05 | 16,661 | 100·00 | 12·70 | 15,901 | 100·00 | 11·92 | 15,118 | 100·00 | 11·16 |

## DEATHS FROM CANCER.

The diseases which deserve special mention, although they are not exactly the three which claim most victims in the course of the year, are cancer, phthisis, and heart disease. During the year 1900 there were 765 fatal cases of cancer, as compared with 761 in the preceding year, and 714 in 1898.

For a number of years deaths from cancer have been more numerous among males than among females ; thus in 1894, there were 308 male and

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208 female deaths; in 1895, 311 male and 245 female deaths; in 1896 327 male and 294 female deaths; in 1897, 365 male and 321 female deaths; in 1898, 398 male and 316 female deaths; in 1899, 410 male and 351 female deaths; and in 1900, 409 male and 356 female deaths. The ages of the 765 persons who died in 1900 ranged from 2 to 92 years. Of the total number, 229 were born in Australasia; while of the remainder, more than two-thirds had been resident in the various states or in New Zealand for 20 years or more.

It would seem that cases of cancer are increasing in New South Wales much faster than might be expected from the actual increase in population. All fatal cases have been recorded since 1856, and during the interval the proportion per thousand of the population has more than trebled. For the five years, 1856–60, the proportion was 0·14 per thousand, while in 1896–1900 it was 0·54 per thousand. Possibly the more skilful diagnosis of late years, especially of internal cancer, may account for part of the increase; but when every allowance has been made on this score, it will be found that the spread of the disease is a dread reality, demanding very serious attention. The following table shows the deaths since 1856, with the proportion per thousand of population:—

| Year | Deaths. | Per 1,000 of Population. | Year. | Deaths. | Per 1,000 of Population. | Year. | Deaths. | Per 1,000 of Population. |
|---|---|---|---|---|---|---|---|---|
| 1856 | 32 | 0·14 | 1871 | 127 | 0·25 | 1886 | 333 | 0·34 |
| 1857 | 38 | 0·13 | 1872 | 149 | 0·28 | 1887 | 354 | 0·35 |
| 1858 | 37 | 0·11 | 1873 | 159 | 0·29 | 1888 | 404 | 0·39 |
| 1859 | 48 | 0·14 | 1874 | 156 | 0·28 | 1889 | 393 | 0·37 |
| 1860 | 60 | 0·18 | 1875 | 181 | 0·31 | 1890 | 392 | 0·35 |
| 1861 | 68 | 0·19 | 1876 | 166 | 0·27 | 1891 | 516 | 0·45 |
| 1862 | 73 | 0·20 | 1877 | 167 | 0·27 | 1892 | 510 | 0·43 |
| 1863 | 76 | 0·20 | 1878 | 191 | 0·29 | 1893 | 489 | 0·40 |
| 1864 | 83 | 0·22 | 1879 | 171 | 0·25 | 1894 | 516 | 0·42 |
| 1865 | 88 | 0·22 | 1880 | 239 | 0·33 | 1895 | 556 | 0·44 |
| 1866 | 105 | 0·25 | 1881 | 216 | 0·28 | 1896 | 621 | 0·48 |
| 1867 | 112 | 0·26 | 1882 | 215 | 0·27 | 1897 | 686 | 0·52 |
| 1868 | 118 | 0·26 | 1883 | 215 | 0·26 | 1898 | 714 | 0·53 |
| 1869 | 119 | 0·25 | 1884 | 233 | 0·26 | 1899 | 761 | 0·57 |
| 1870 | 113 | 0·23 | 1885 | 267 | 0·29 | 1900 | 765 | 0·56 |

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## Deaths from Phthisis.

A notable decrease in the number of deaths from phthisis and other forms of tuberculosis has taken place since the passing of the Dairies Supervision Act of 1886, the Diseased Animals and Meat Act of 1892, and the Public Health Act of 1896. Under these Acts, the Board of Health is empowered to supervise dairies and the production of milk, cream, butter, and cheese, and to prevent the sale of tuberculous meat. In the following table the deaths from phthisis and other forms of tuberculosis are shown for a period of ten years, together with their proportion to population :—

| Year. | Deaths from— | | | Per 100,000 of Population. |
|---|---|---|---|---|
| | Phthisis. | Others forms of Tuberculosis. | Total. | |
| 1891 | 1,053 | 105 | 1,158 | 101 |
| 1892 | 1,018 | 112 | 1,130 | 96 |
| 1893 | 1,069 | 93 | 1,162 | 96 |
| 1894 | 1,042 | 104 | 1,146 | 93 |
| 1895 | 1,016 | 104 | 1,120 | 89 |
| 1896 | 1,027 | 69 | 1,096 | 85 |
| 1897 | 964 | 58 | 1,022 | 78 |
| 1898 | 1,088 | 55 | 1,143 | 86 |
| 1899 | 1,069 | 327 | 1,396 | 105 |
| 1900 | 1,077 | 245 | 1,322 | 98 |

The 1,077 deaths from phthisis which occurred during 1900 included 667 males and 410 females, whose ages are shown in the following table :—

| Age Groups. | Deaths. | Age Groups. | Deaths. | Age Groups. | Deaths. |
|---|---|---|---|---|---|
| Under 1 year ..... | 20 | 20 and under 25 years | 107 | 60 and under 65 years | 39 |
| 1 year ..... | 6 | 25 ,, ,, 30 ,, | 155 | 65 ,, ,, 70 ,, | 31 |
| 2 years ..... | 1 | 30 ,, ,, 35 ,, | 147 | 70 ,, ,, 75 ,, | 10 |
| 3 ,, ..... | 2 | 35 ,, ,, 40 ,, | 128 | 75 ,, ,, 80 ,, | 4 |
| 4 ,, ..... | 1 | 40 ,, ,, 45 ,, | 146 | 84 years..... | 1 |
| 5 and under 10 years.. | 10 | 45 ,, ,, 50 ,, | 98 | | |
| 10 ,, ,, 15 ,, .. | 6 | 50 ,, ,, 55 ,, | 54 | Total ..... | 1,077 |
| 15 ,, ,, 20 ,, .. | 48 | 55 ,, ,, 60 ,, | 63 | | |

The Australian climate is certainly favourable to persons suffering from pulmonary diseases, and a considerable number of persons suffering from phthisis visit Australia in search of relief. Many of these are in the last stages of the disease, and succumb after a short residence in the state. It may be said that during those years for which information is available, about 6½ per cent. of the fatal cases of consumption were those of persons whose residence in Australia had not exceeded five years. The figures for the year 1900 show that out of the 1,077 persons who died from phthisis, 621 were natives of Australasia, and of the remainder 37 had been residents less than 5 years, 170 from 5 to 20 years, 217 for more than 20 years, while the length of residence of 32 persons was unknown.

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### Deaths from Heart Disease.

Deaths from heart disease during the year 1900 numbered 1,262, viz.:—758 males and 504 females. Their ages are shown below:—

| Age Groups. | Deaths. | Age Groups. | Deaths. | Age Groups. | Deaths. |
|---|---|---|---|---|---|
| Under 1 year ..... | 17 | 30 and under 35 years | 40 | 80 and under 85 years | 45 |
| 1 year ..... | 8 | 35 „ „ 40 „ | 49 | 85 „ „ 90 „ | 12 |
| 2 years ..... | 4 | 40 „ „ 45 „ | 75 | 90 years..... | 2 |
| 3 „ ..... | 3 | 45 „ „ 50 „ | 98 | 92 „ ..... | 1 |
| 4 „ ..... | .... | 50 „ „ 55 „ | 117 | 93 „ ..... | 1 |
| 5 and under 10 years.. | 11 | 55 „ „ 60 „ | 120 | 100 „ ..... | 2 |
| 10 „ „ 15 „ .. | 33 | 60 „ „ 65 „ | 176 | | |
| 15 „ „ 20 „ .. | 16 | 65 „ „ 70 „ | 149 | Total ..... | 1,262 |
| 20 „ „ 25 „ .. | 32 | 70 „ „ 75 „ | 135 | | |
| 25 „ „ 30 „ .. | 22 | 75 „ „ 80 „ | 91 | | |

Only 420 persons out of the 1,262 shown above were natives of Australia. Of the remainder, 646, or 51 per cent. of the total, had been resident in Australia for more than 20 years.

### Diseases of Nervous System.

Diseases of the nervous system were responsible for 1,535 deaths in 1900, equal to a rate of 11·33 per 10,000 living. The number of deaths and the death rates are given below for periods of five years:—

| Period. | Number of Deaths. | Rate per 10,000 living. |
|---|---|---|
| 1871–75 | 5,881 | 21·56 |
| 1876–80 | 6,844 | 20·67 |
| 1881–85 | 8,522 | 20·23 |
| 1886–90 | 8,432 | 16·28 |
| 1891–95 | 8,256 | 13·73 |
| 1896–1900 | 7,938 | 12·10 |

As the table shows, the death rate steadily declined during the period under review, and the figures form a striking commentary on the assertion that higher civilisation results in an increased mortality rate from diseases of the nerves and brain.

### Accidents.

Accidental deaths are very numerous, especially in the country. The number registered during 1900 was 992, 273 of which occurred in the metropolis and 719 in the country districts. The number of fatal

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accidents in the state during each of the years 1893 to 1900 inclusive was as follows :—

| | 1893. | 1894. | 1895. | 1896. | 1897. | 1898. | 1899. | 1900. |
|---|---|---|---|---|---|---|---|---|
| Sydney and suburbs... | 212 | 226 | 206 | 234 | 226 | 227 | 235 | 273 |
| Country ..... | 659 | 638 | 695 | 901 | 709 | 681 | 647 | 719 |
| Total ..... | 871 | 864 | 901 | 1,135 | 935 | 908 | 882 | 992 |

The remarkable increase in the number of accidents in 1896 was due to the abnormally large number of cases of sunstroke and heat apoplexy which occurred at the beginning of that year.

The number of fatal accidents and the death rates per 10,000 living are given below for five year periods since 1870 :—

| Period. | Number of Deaths. | Death-rate per 10,000 living. |
|---|---|---|
| 1871–75 | 2,982 | 10·93 |
| 1876–80 | 3,569 | 10·78 |
| 1881–85 | 4,174 | 9·91 |
| 1886–90 | 4,542 | 8·77 |
| 1891–95 | 4,520 | 7·51 |
| 1896–1900 | 4,852 | 7·39 |

Although the death-rate from accidents is still high, it will be seen that in proportion to population there has been a steady decline since 1870. The average annual number of accidental deaths during the 10 years ending 1900 was 937, of which 391 were set down to fractures, 137 to burns, and 102 to drowning.

## Suicides.

The number of suicides registered in New South Wales during each of the last ten years, classified according to the various modes adopted for the taking of life, was as follows:—

| Year. | Shooting. | | Cut, Stab, etc. | | Poison. | | Drowning. | | Hanging. | | Other Modes. | | All cases. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | Total. |
| 1891 | 36 | 1 | 14 | 2 | 16 | 10 | 3 | 2 | 29 | 4 | 2 | ... | 100 | 19 | 119 |
| 1892 | 37 | ... | 17 | 1 | 20 | 11 | 8 | 4 | 20 | 1 | 6 | 2 | 108 | 19 | 127 |
| 1893 | 42 | ... | 18 | 2 | 28 | 8 | 22 | 8 | 15 | 6 | 3 | 1 | 128 | 25 | 153 |
| 1894 | 29 | 2 | 15 | 3 | 22 | 14 | 23 | 16 | 17 | 5 | 5 | ... | 111 | 40 | 151 |
| 1895 | 37 | 1 | 24 | 2 | 25 | 10 | 24 | 9 | 18 | 4 | 7 | 2 | 135 | 28 | 163 |
| 1896 | 39 | 1 | 18 | 2 | 26 | 10 | 39 | 11 | 26 | 3 | 7 | ... | 155 | 27 | 182 |
| 1897 | 34 | 1 | 26 | 1 | 22 | 13 | 40 | 17 | 20 | 4 | 7 | 2 | 149 | 38 | 187 |
| 1898 | 36 | ... | 16 | 4 | 23 | 18 | 33 | 12 | 16 | 1 | 5 | 1 | 129 | 36 | 165 |
| 1899 | 40 | 1 | 16 | 1 | 30 | 17 | 43 | 9 | 21 | 3 | 12 | 2 | 162 | 33 | 195 |
| 1900 | 38 | 3 | 20 | ... | 23 | 11 | 17 | 12 | 16 | 1 | 1 | 3 | 115 | 30 | 145 |
| Total | 368 | 10 | 184 | 18 | 235 | 122 | 252 | 100 | 198 | 32 | 55 | 13 | 1,292 | 295 | 1,587 |

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Suicide by hanging formerly claimed the largest number of male victims; but for the ten years ended 1900 there were 368 suicides of males by shooting, as against 198 by hanging. Death by poisoning was most favoured by women, there having been 122 cases during the decade, while 100 females put an end to themselves by drowning.

The following table shows the number of suicides, and the proportion to total deaths, for the last ten years:—

| Year. | Suicides by males. | | Suicides by females. | | Total Suicides. | |
|---|---|---|---|---|---|---|
| | No. | Per thousand of total deaths of males. | No. | Per thousand of total deaths of females. | No. | Per thousand deaths. |
| 1891 | 100 | 10·46 | 19 | 2·82 | 119 | 7·31 |
| 1892 | 108 | 12·64 | 19 | 3·24 | 127 | 8·81 |
| 1893 | 128 | 13·78 | 25 | 3·71 | 153 | 9·55 |
| 1894 | 111 | 12·74 | 40 | 6·20 | 151 | 9·95 |
| 1895 | 135 | 15·48 | 28 | 4·49 | 163 | 10·93 |
| 1896 | 155 | 16·75 | 27 | 4·10 | 182 | 11·49 |
| 1897 | 149 | 17·92 | 38 | 6·38 | 187 | 13·11 |
| 1898 | 129 | 13·39 | 36 | 5·12 | 165 | 9·90 |
| 1899 | 162 | 17·74 | 33 | 4·87 | 195 | 12·26 |
| 1900 | 115 | 12·85 | 30 | 4·86 | 145 | 9·59 |

The following table shows the deaths by suicide in age-groups for periods of ten years since 1871, and also the total for the thirty years 1871–1900:—

| Age Groups. | Ten years, 1871-80. | | Ten years, 1881-90. | | Ten years, 1891-1900. | | Thirty years, 1871-1900. | |
|---|---|---|---|---|---|---|---|---|
| | M. | F. | M. | F. | M. | F. | M. | F. |
| 10 years and under 15 ... | 1 | ... | 2 | 1 | 6 | 4 | 9 | 5 |
| 15 ,, ,, 20 ... | 4 | 4 | 13 | 20 | 17 | 37 | 34 | 61 |
| 20 ,, ,, 25 ... | 12 | 12 | 49 | 19 | 79 | 51 | 140 | 82 |
| 25 ,, ,, 30 ... | 26 | 8 | 90 | 19 | 96 | 29 | 212 | 56 |
| 30 ,, ,, 35 ... | 47 | 11 | 93 | 20 | 135 | 34 | 275 | 65 |
| 35 ,, ,, 40 ... | 62 | 10 | 83 | 14 | 169 | 42 | 314 | 66 |
| 40 ,, ,, 45 ... | 45 | 13 | 84 | 19 | 153 | 16 | 282 | 48 |
| 45 ,, ,, 50 ... | 57 | 8 | 81 | 13 | 133 | 22 | 271 | 43 |
| 50 ,, ,, 55 ... | 50 | 7 | 97 | 16 | 129 | 12 | 276 | 35 |
| 55 ,, ,, 60 ... | 30 | 4 | 62 | 8 | 114 | 11 | 206 | 23 |
| 60 ,, ,, 65 ... | 40 | 8 | 48 | 6 | 97 | 20 | 185 | 34 |
| 65 ,, ,, 70 ... | 27 | 2 | 38 | 4 | 72 | 4 | 137 | 10 |
| 70 ,, and upwards ... | 20 | 1 | 41 | 6 | 92 | 13 | 153 | 20 |
| All ages ... ... | 421 | 88 | 781 | 165 | 1,292 | 295 | 2,494 | 548 |

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The next table shows the mean annual rate of suicide per 10,000 living in the various age-groups for the thirty years 1871 to 1900 :—

| Age Groups. | Death-rate per 10,000 living. | |
|---|---|---|
| | Males. | Females. |
| 10 and under 15 years | 0·06 | 0·04 |
| 15 ,, 20 ,, | 0·27 | 0·49 |
| 20 ,, 25 ,, | 1·02 | 0·65 |
| 25 ,, 30 ,, | 1·60 | 0·53 |
| 30 ,, 35 ,, | 2·37 | 0·77 |
| 35 ,, 40 ,, | 3·26 | 0·99 |
| 40 ,, 45 ,, | 3·51 | 0·92 |
| 45 ,, 50 ,, | 4·18 | 0·98 |
| 50 ,, 55 ,, | 5·13 | 1·05 |
| 55 ,, 60 ,, | 5·40 | 0·88 |
| 60 ,, 65 ,, | 6·16 | 1·76 |
| 65 ,, 70 ,, | 7·88 | 0·94 |
| 70 years and upwards | 6·66 | 1·35 |

These figures show that suicide is steadily increasing both amongst males and females, and that for males the disposition to self-destruction increases with each year of life up to age 70, when there is a slight falling-off. At no period of life, except during the five years 15 to 20, are females more prone to suicide than males, nor does age develop the tendency amongst them to the same extent. Classified according to the quarterly divisions of the year, it would appear that the highest proportion of suicides occurs in the fourth, and the lowest in the second quarter for both males and females. For the decade ended 1900 the proportion of male suicides during the four quarters of the year was as follows :—

| | |
|---|---|
| First quarter | 23·68 per cent. |
| Second quarter | 22·14 ,, |
| Third quarter | 24·07 ,, |
| Fourth quarter | 30·11 ,, |

Female suicides classified by quarters for the same period were as follow :—

| | |
|---|---|
| First quarter | 20·00 per cent. |
| Second quarter | 19·32 ,, |
| Third quarter | 27·46 ,, |
| Fourth quarter | 33·22 ,, |

The mean rate of the whole of Australasia for the ten years ended 1900 was 11·7, which is slightly lower than in New South Wales. In respect to suicide, however, all the states compare somewhat unfavourably

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with Great Britain. The following figures show the rate of deaths from suicide in the Australasian provinces :—

| State. | Per 100,000 of mean population. |
|---|---|
| Tasmania | 7·8 |
| Victoria | 10·1 |
| South Australia | 10·1 |
| New South Wales | 12·6 |
| Queensland | 17·0 |
| Western Australia | 20·7 |
| Commonwealth | 12·2 |
| New Zealand | 8·1 |
| Australasia | 11·7 |

In comparison with those of the majority of European countries, the Australasian rates show to better advantage than with those of the United Kingdom, as will appear from the subjoined table, which gives the average rates over a number of years :—

| Country. | Per 100,000 Inhabitants. | Country. | Per 100,000 Inhabitants. |
|---|---|---|---|
| England and Wales | 8 | Italy | 5 |
| Scotland | 6 | Switzerland | 22 |
| Ireland | 3 | Belgium | 13 |
| Germany | 21 | Holland | 6 |
| Prussia | 29 | Sweden | 13 |
| Bavaria | 13 | Norway | 6 |
| Saxony | 32 | Denmark | 25 |
| Austria | 16 | Spain | 2 |
| Hungary | 11 | Finland | 4 |
| France | 23 | | |

## Index of Mortality.

It is well-known that the ages of the population considerably affect the death-rate of a country ; and in order to have a comparison of the mortality of the principal countries of the world on a uniform age basis, the International Statistical Institute, in its 1895 session, held at Berne, decided to recommend the adoption of the population of Sweden, in five age-groups, as ascertained at the census of 1890, as the standard population by which the index of mortality should be calculated. Applying the coefficient of mortality in each age-group in New South Wales to the age-constitution of the standard population, the index of

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mortality for the state during the last ten years is found to be as follows:—

| Year. | Index of Mortality. | Death-rate. |
|---|---|---|
| | per thousand. | per thousand. |
| 1891 | 18·63 | 14·26 |
| 1892 | 15·50 | 12·24 |
| 1893 | 16·49 | 13·32 |
| 1894 | 16·04 | 12·36 |
| 1895 | 15·33 | 11·92 |
| 1896 | 15·94 | 12·47 |
| 1897 | 14·45 | 11·05 |
| 1898 | 16·24 | 12·69 |
| 1899 | 15·34 | 11·92 |
| 1900 | 14·57 | 11·16 |

## Burials.

Cemeteries in New South Wales are in some cases church property; in other cases they belong to municipal corporations; and in other cases again they are Government property administered by trustees, partly appointed and partly elected. A few cemeteries in outlying parts of the State are in the hands of private owners. In the metropolitan area the first three kinds of ownership are all represented. The necropolis at Rookwood and the cemetery at Sutherland are Government property managed by trustees; while amongst a number of others, the Waverley and Long Bay cemeteries belong to the Waverley and Randwick municipalities respectively; and the St. Thomas's, North Sydney; Watson's Bay, St. Peters, Petersham, and Randwick cemeteries are church property. Burial fees at Rookwood range from 12s. 6d. to £1 10s., and at Waverley from £1 17s. 6d. to £2 7s. 6d., for the great majority of funerals; in exceptional cases, however, they may, according to situation and area required, amount to £10 10s. or more. The average price of funerals in the metropolitan area may be stated to be as follows:—For coffin and hearse, first class, £10; second class, £7; third class, £4; and for coaches, from £1 5s. to £1 10s. each, according to distance to be travelled; total cost—first class, £15; second class, £10 10s.; third class, £7 10s. It is impossible to establish any average for country funerals; for while in some of the larger country towns undertakers are to be found, in the majority of country places actual funeral expenses need hardly be incurred except in the shape of burial fees.

## Duration of Sickness.

No doubt accurate returns could be obtained from public institutions as to the duration after admission and the result of all cases which have undergone treatment in them, but they would not be correct enough for

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general use. Many of the cases of sickness might have existed for some time before the patient applied for relief, and, what is of still greater importance, as a rule only those whose condition is deemed critical are conveyed to a hospital, whilst what is required to make the statistics of any public utility is that we should obtain the average duration of "sickness," that is, of inability to work at the usual trade or business at each period of life.

Up to the present time no statistics relating to the average duration of fatal sickness have been compiled, although in most cases valuable information might be obtained from the registration of deaths. The returns furnished under the Friendly Societies Act contain important material bearing upon general sickness, and the experience of the Manchester Unity, Independent Order of Oddfellows, the largest friendly society operating in New South Wales is especially valuable. From the returns of this society for the last five years has been prepared the following table, in which a comparison is made between the experience of the Order in England and in New South Wales with regard to the average sickness per annum to each person, and the rate of mortality at various age groups :—

| Age. | England. | | New South Wales. | |
|---|---|---|---|---|
| | Weeks of Sickness per Member per annum. | Annual Mortality per 100 Members. | Weeks of Sickness per Member per annum. | Annual Mortality per 100 Members |
| 16–20 | 0·516 | 0·532 | 0·516 | 0·199 |
| 21–25 | 0·776 | 0·658 | 0·590 | 0·395 |
| 26–30 | 0·816 | 0·770 | 0·685 | 0·392 |
| 31–35 | 0·966 | 0·845 | 0·804 | 0·481 |
| 36–40 | 1·085 | 1·040 | 0·943 | 0·572 |
| 41–45 | 1·321 | 1·269 | 1·289 | 0·874 |
| 46–50 | 1·747 | 1·512 | 1·759 | 1·147 |
| 51–55 | 2·336 | 2·002 | 2·854 | 1·622 |
| 56–60 | 3·324 | 2·659 | 4·147 | 2·965 |
| 61–65 | 5·163 | 4·005 | 5·819 | 3·368 |
| 66–70 | 8·330 | 5·585 | 10·960 | 6·215 |
| 71–75 | 13·699 | 8·760 | 15·571 | 12·500 |
| 76–80 | 19·604 | 14·128 | 33·208 | 20·833 |

From the above it will be seen that for earlier age periods both sickness and mortality rates are more favourable in New South Wales, but before the fiftieth year is reached the sickness experienced is against that state, while at about age 68 the mortality rate becomes higher than in England ; but the data for New South Wales in regard to sickness are not yet sufficient to enable any confident deduction to be drawn from the tabulated results.

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## VACCINATION.

Vaccination is not compulsory in New South Wales, and is resorted to chiefly in times of scare, when an epidemic of small-pox is thought to be imminent. It is easy to discover from the returns of the Government vaccinators the years when the community was threatened by the disease, as at such times the number of persons submitting themselves to vaccination largely increased. The number returned does not include those treated by private medical officers, by whom a large number of persons are vaccinated. The following figures show the number of persons vaccinated by Government Medical Officers since the year 1881 :—

| Year. | Sydney and Suburbs. | Country. | Total. | Year. | Sydney and Suburbs. | Country. | Total. |
|---|---|---|---|---|---|---|---|
| 1881 | 8,738 | 52,501 | 61,239 | 1891 | 531 | 1,036 | 1,567 |
| 1882 | 380 | 1,869 | 2,249 | 1892 | 1,326 | 2,688 | 4,014 |
| 1883 | 296 | 600 | 896 | 1893 | 838 | 1,709 | 2,547 |
| 1884 | 630 | 6,569 | 7,199 | 1894 | 15 | 1,942 | 1,957 |
| 1885 | 346 | 1,884 | 2,230 | 1895 | 72 | 2,360 | 2,432 |
| 1886 | 452 | 1,311 | 1,763 | 1896 | 78 | 867 | 945 |
| 1887 | 1,031 | 2,199 | 3,230 | 1897 | 6 | 239 | 245 |
| 1888 | 1,091 | 1,095 | 2,186 | 1898 | 43 | 549 | 592 |
| 1889 | 728 | 1,676 | 2,404 | 1899 | 38 | 1,159 | 1,197 |
| 1890 | 958 | 1,239 | 2,197 | 1900 | 25 | 886 | 911 |

The number and ages of persons vaccinated by the Government Medical Officers during 1900 will be found below :—

| District. | Under 1 year. | From 1 to 5 years. | From 5 to 10 years. | 10 years and upwards. | Total. |
|---|---|---|---|---|---|
| Sydney and suburbs... | 7 | 5 | 6 | 7 | 25 |
| Country districts ..... | 18 | 94 | 430 | 344 | 886 |
| Total ..... | 25 | 99 | 436 | 351 | 911 |

## INSANITY.

The number of insane persons under treatment in hospitals in New South Wales is steadily, if slowly, increasing; but this increase in insanity is only the experience of the United Kingdom and other countries, as well as of most of the Australasian States. The hospitals for insane, under the immediate control of the Government of New South Wales, are seven in number—six for ordinary insane, and one, at Parramatta, for criminals. Besides these there are two licensed houses, each for a single patient, at Picton; one at Ryde for ten patients; and another at Cook's River, near Sydney, containing 37 inmates.

The number of insane persons under treatment on the 31st December, 1900, under official cognisance, was 4,376. These figures are 178 in



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excess of the number on the register at the end of 1899, and 312 higher than at the end of 1898. From the table given below, showing the distribution of the patients, it will be seen that, in addition to the 4,376 inmates of the New South Wales asylums, twenty were located in hospitals in South Australia. This was in terms of an arrangement which has been made with the Government of that state, whereby patients from the Broken Hill district are sent to South Australia :—

| Name of Hospital. | Number on Register. | | |
|---|---|---|---|
| | Males. | Females. | Total. |
| Government Hospitals— | | | |
| Callan Park | 467 | 415 | 882 |
| Gladesville | 537 | 366 | 903 |
| Parramatta, free | 702 | 390 | 1,092 |
| Do criminal | 46 | 8 | 54 |
| Newcastle | 206 | 156 | 362 |
| Rydalmere | 362 | 173 | 535 |
| Kenmore | 304 | 196 | 500 |
| Licensed Houses— | | | |
| Cook's River | 17 | 20 | 37 |
| Picton (two) | ..... | 1 | 1 |
| Ryde | ..... | 10 | 10 |
| South Australian Hospitals | 14 | 6 | 20 |
| Totals | 2,655 | 1,741 | 4,396 |

The proportion of insane to the whole population, as already pointed out, is now slowly increasing, although it was practically a constant quantity until 1890. This will be seen from the accompanying table giving the number of persons in hospitals for insane at the close of each year from 1879 to 1900 inclusive. The increase during the last few years is noteworthy, especially in face of the stoppage of the influx of insane patients into the State from other places :—

| At end of year. | No. of Insane. | Proportion of Insane per 1,000 of population. | At end of year. | No. of Insane. | Proportion of Insane per 1,000 of population. |
|---|---|---|---|---|---|
| 1881 | 2,218 | 2·90 | 1892 | 3,312 | 2·81 |
| 1882 | 2,307 | 2·89 | 1893 | 3,425 | 2·85 |
| 1883 | 2,403 | 2·87 | 1894 | 3,587 | 2·92 |
| 1884 | 2,524 | 2·86 | 1895 | 3,716 | 2·97 |
| 1885 | 2,643 | 2·85 | 1896 | 3,841 | 3·02 |
| 1886 | 2,717 | 2·80 | 1897 | 3,951 | 3·06 |
| 1887 | 2,821 | 2·81 | 1898 | 4,064 | 3·10 |
| 1888 | 2,898 | 2·80 | 1899 | 4,198 | 3·15 |
| 1889 | 2,974 | 2·79 | 1900 | 4,376 | 3·23 |
| 1890 | 3,102 | 2·82 | | | |
| 1891 | 3,134 | 2·74 | | Mean..... | 2·99 |

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The amount of insanity in New South Wales is less than in any part of the United Kingdom. The greatest proportion of lunacy in Australasia is found in Victoria, and the lowest in Western Australia, as will be seen from the following table, based on a period of five years. The average for New South Wales is slightly above that of the Commonwealth, which is 3·2 per thousand. It should be pointed out that the rate for Western Australia only represents the accommodation in the asylums of that state, many patients having been refused admission owing to lack of room.

| Country. | Insane persons per 1,000 of population. | Country. | Insane persons per 1,000 of population. |
|---|---|---|---|
| England and Wales... | 3·1 | Queensland ..... | 3·1 |
| Scotland ..... | 3·3 | South Australia ..... | 2·7 |
| Ireland ..... | 4·5 | Western Australia ... | 1·3 |
| New South Wales ... | 3·4 | Tasmania ..... | 2·3 |
| Victoria ..... | 3·7 | New Zealand ..... | 3·4 |

The percentage of deaths of insane persons in New South Wales is comparatively light. The following table has been computed on the basis of the average number of patients resident in hospitals for the insane :—

| Year. | Percentage of deaths of average number resident. | | | Year. | Percentage of deaths of average number resident. | | |
|---|---|---|---|---|---|---|---|
| | Males. | Females. | Total. | | Males. | Females. | Total. |
| 1891 | 8·42 | 5·65 | 7·39 | 1897 | 7·51 | 4·91 | 6·52 |
| 1892 | 6·26 | 5·72 | 6·06 | 1898 | 6·58 | 5·81 | 6·29 |
| 1893 | 8·37 | 5·88 | 7·42 | 1899 | 7·67 | 3·87 | 6·20 |
| 1894 | 6·12 | 5·22 | 5·77 | 1900 | 7·71 | 4·88 | 6·61 |
| 1895 | 6·83 | 5·27 | 6·24 | | | | |
| 1896 | 7·18 | 4·67 | 6·22 | Mean... | 7·28 | 5·12 | 6·45 |

It has been suggested that there is a very intimate connection between commercial depression and the increase in the number of insane persons admitted to the asylums of the state. A glance at the figures for 1892 and succeeding years, during which such depression has been sorely felt, would seem to favour this view, seeing that the proportion per thousand of the population advanced from 0·52 in 1891 to 0·56 in 1892, 0·58 in 1894, and 0·57 in 1896. But these figures do not finally dispose of the question, for during the seven years which closed with 1883—a period of general prosperity—the admissions ranged from 0·72 to 0·57 per thousand. It is very probable that the most immediate effect of depressed times is to send to the asylums a number of harmless but demented persons, who in more prosperous days are supported by

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their relatives. On the other hand, the quota of admissions to asylums in prosperous times is maintained by insanity induced directly or indirectly by the means of indulgence which high wages and large gains commonly afford. The number of admissions to the hospitals for insane, and the proportion per 1,000 of the mean population, are shown below :—

| Year. | Admissions and Re-admissions. | Proportion to population per 1,000. | Year. | Admissions and Re-admissions. | Proportion to population per 1,000. |
|---|---|---|---|---|---|
| 1881 | 494 | 0·64 | 1892 | 666 | 0·57 |
| 1882 | 473 | 0·59 | 1893 | 688 | 0·57 |
| 1883 | 476 | 0·57 | 1894 | 712 | 0·58 |
| 1884 | 493 | 0·55 | 1895 | 715 | 0·57 |
| 1885 | 567 | 0·60 | 1896 | 740 | 0·58 |
| 1886 | 567 | 0·58 | 1897 | 692 | 0·54 |
| 1887 | 532 | 0·52 | 1898 | 730 | 0·56 |
| 1888 | 587 | 0·55 | 1899 | 796 | 0·60 |
| 1889 | 550 | 0·50 | 1900 | 859 | 0·63 |
| 1890 | 611 | 0·54 | | | |
| 1891 | 596 | 0·52 | | Mean ..... | 0·58 |

Until June, 1893, there was no law in force in this state to prevent the influx of insane persons, and, as a consequence, the splendid hospitals which the bounty of the Government has established for the treatment of the insane were the means of burdening the community with the care of unfortunate persons belonging to other countries where the treatment meted out to the insane is less generous or less scientific than in New South Wales. On the date mentioned, Act 56 Vic. No. 23 came into force. Section 4 of this measure renders the owner, charterer, agent or master of a vessel liable for the maintenance of any insane person landed in the state.

The following figures show the birthplaces of patients under care in the hospitals for the insane during the year 1900 :—

| Country. | No. of Patients. | Percentage of total. | Country. | No. of Patients. | Percentage of total. |
|---|---|---|---|---|---|
| New South Wales... | 2,150 | 41·0 | Germany ..... | 112 | 2·1 |
| Other British Colonies | 390 | 7·5 | China ..... | 79 | 1·5 |
| England..... | 1,024 | 19·6 | Other countries..... | 218 | 4·2 |
| Scotland ..... ... | 220 | 4·2 | | | |
| Ireland..... | 1,022 | 19·5 | Total..... | 5,236 | 100·0 |
| France ..... | 21 | 0·4 | | | |

In this table and the two following the figures represent the total number of patients under care during the year 1900, and not the number remaining on the register on the 31st December, as previously given. It will be seen from the figures set down above that the number of persons under restraint who are natives of this state forms only 41 per cent. of the total, this proportion being exceeded by natives of the British Islands with 43·3 per cent. of the total.

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The ages of the 5,236 insane patients under care during 1900 were as appended. Nearly one half of the whole number—47·73 per cent.—were between the ages of 30 and 50 years.

| Ages of Insane. | No. of Patients. | Percentage of all ages. |
|---|---|---|
| Under 5 years | 5 | 0·10 |
| 5 and under 10 years | 31 | 0·59 |
| 10 ,, 15 ,, | 62 | 1·18 |
| 15 ,, 20 ,, | 145 | 2·77 |
| 20 ,, 30 ,, | 728 | 13·90 |
| 30 ,, 40 ,, | 1,257 | 24·01 |
| 40 ,, 50 ,, | 1,242 | 23·72 |
| 50 ,, 60 ,, | 928 | 17·72 |
| 60 ,, 70 ,, | 615 | 11·75 |
| 70 ,, 80 ,, | 201 | 3·84 |
| 80 ,, 90 ,, | 20 | 0·38 |
| 90 years and upwards | 2 | 0·04 |
| Total | 5,236 | 100·00 |

Juvenile lunatics are as a rule sent to the Hospital for the Insane at Newcastle—an asylum which is set apart for imbecile and idiotic patients; so that of the 98 mentioned in the foregoing table as being under 15 years of age, the majority were in that institution.

The major portion of the persons under restraint in 1900 were single. Amongst the married and widowed, females largely predominated.

| Conditions as to Marriage. | Males. | Females. | Total. |
|---|---|---|---|
| Single | 2,217 | 926 | 3,143 |
| Married | 663 | 869 | 1,532 |
| Widowed | 141 | 244 | 385 |
| Unascertained | 150 | 26 | 176 |
| Total | 3,171 | 2,065 | 5,236 |

It is popularly supposed that the principal cause of insanity is intemperance. The experience of this state, however, does not bear out this opinion. The amount of insanity directly due to drink, though certainly large, is not so considerable as that due to other causes. As far as the records of the hospitals show, the proportion of persons admitted suffering from insanity traceable to intemperance was not more than 8·54 per cent. of the total admissions for the ten years ending with 1900.

Persons suffering from mania induced by excess of drink recover comparatively quickly, and at any one time their number in the hospitals for the insane is scarcely more than 5·5 per cent. The most potent cause appears to be hereditary influence. How far this is productive of insanity cannot, however, be exactly determined; for although the Inspector-General of the Insane has ascertained that hereditary influence and congenital defect can be credited with only 12·61 per cent. of the total

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insanity, this percentage gives no idea of the actual amount of hereditary insanity in the State. Of the large number of patients the causes of whose insanity is unknown, it is believed that in most instances the insanity is due to hereditary influence; and even in those cases where the primary cause of insanity has been ascertained, there is a strong presumption that many of the patients have inherited an insane neurosis.

In the following table will be found the percentages of the various causes of insanity. The calculations are made on the apparent or assigned causes in the cases of all patients admitted and re-admitted into the asylums and licensed houses for the insane during the ten years 1891–1900 :—

| Cause of Insanity. | Percentage of causes of male insanity. | | Percentage of causes of female insanity. | | Percentage of total insanity. | |
|---|---|---|---|---|---|---|
| Moral :— | | | | | | |
| Domestic trouble (including loss of relatives and friends) | 1·15 | | 5·53 | | 2·92 | |
| Adverse circumstances (including business anxiety and pecuniary difficulties) | 5·09 | | 2·17 | | 3·91 | |
| Mental anxiety and "worry" (not included under above two heads), and overwork | 2·69 | 11·45 | 3·03 | 15·76 | 2·83 | 13·21 |
| Religious excitement | 1·37 | | 1·87 | | 1·58 | |
| Love affairs (including seduction) | 0·14 | | 1·19 | | 0·57 | |
| Fright and nervous shock | 0·12 | | 1·25 | | 0·58 | |
| Isolation | 0·57 | | 0·60 | | 0·58 | |
| Nostalgia | 0·32 | | 0·12 | | 0·24 | |
| Physical :— | | | | | | |
| Intemperance in drink | 11·86 | | 3·66 | | 8·54 | |
| Do sexual | 0·35 | | 0·42 | | 0·37 | |
| Venereal disease | 0·89 | | 0·12 | | 0·58 | |
| Self-abuse | 1·82 | | 0·03 | | 1·09 | |
| Sunstroke | 1·64 | | 0·51 | | 1·18 | |
| Accident or injury | 3·23 | | 0·68 | | 2·20 | |
| Pregnancy | ..... | | 0·68 | | 0·28 | |
| Parturition and the puerperal state | ..... | | 7·32 | | 2·96 | |
| Lactation | ..... | | 1·16 | | 0·47 | |
| Uterine and ovarian disorders | ..... | 40·78 | 1·01 | 37·64 | 0·41 | 39·50 |
| Puberty | 1·17 | | 1·33 | | 1·24 | |
| Change of life | ..... | | 2·41 | | 0·97 | |
| Fevers | 0·14 | | 0·39 | | 0·24 | |
| Privation and overwork | 0·97 | | 0·48 | | 0·77 | |
| Epilepsy | 6·61 | | 5·53 | | 6·17 | |
| Phthisis | 0·38 | | 0·27 | | 0·34 | |
| Disease of skull and brain | 2·83 | | 0·62 | | 1·94 | |
| Old age | 4·71 | | 4·02 | | 4·43 | |
| Other bodily diseases and disorders | 3·94 | | 6·64 | | 5·03 | |
| Excess of opium and cocaine | 0·24 | | 0·36 | | 0·29 | |
| Previous attacks | 10·42 | | 12·94 | | 11·44 | |
| Hereditary influence ascertained | 5·43 | 21·91 | 9·25 | 27·97 | 6·98 | 24·36 |
| Congenital defect ascertained | 5·80 | | 5·39 | | 5·63 | |
| Other ascertained causes | 0·26 | | 0·39 | | 0·31 | |
| Unknown | ..... | 25·86 | ..... | 18·63 | ..... | 22·93 |

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During the year 1900 the deaths of persons afflicted with lunacy numbered 276, viz., 197 males and 79 females. The following are the causes of death, and the number who died from each disease :—

| Cause of Death. | Males. | Females. | Total. |
|---|---|---|---|
| Cerebral Disease :— | | | |
| Apoplexy and paralysis | 6 | 1 | 7 |
| Epilepsy and convulsions | 14 | 6 | 20 |
| General paralysis | 39 | 7 | 46 |
| Maniacal and melancholic exhaustion and decay | 7 | 7 | 14 |
| Inflammation and other diseases of the brain, softening, tumour, &c. | 39 | 6 | 45 |
| Thoracic Disease :— | | | |
| Inflammation of lungs, pleura, and bronchi | 15 | 10 | 25 |
| Pulmonary consumption | 15 | 13 | 28 |
| Disease of heart and blood-vessels | 16 | 6 | 22 |
| Abdominal Disease :— | | | |
| Inflammation and ulceration of stomach, intestines, and peritoneum | 4 | 2 | 6 |
| Dysentery and diarrhœa | 1 | ..... | 1 |
| Albuminuria | 4 | 2 | 6 |
| Disease of bladder and prostate | 1 | ..... | 1 |
| Disease of the liver | 3 | ..... | 3 |
| Typhoid fever | 2 | 1 | 3 |
| General debility and old age | 21 | 9 | 30 |
| Fistula | 1 | ..... | 1 |
| Malignant disease | 3 | 3 | 6 |
| Gangrene | 2 | ..... | 2 |
| Cancer | 1 | 2 | 3 |
| Raynaud's Disease | ..... | 1 | 1 |
| Cancrum oris | ..... | 1 | 1 |
| Marasmus | 1 | 2 | 3 |
| Accident | 1 | ..... | 1 |
| Suicide | 1 | ..... | 1 |
| Total | 197 | 79 | 276 |

The average weekly cost of maintaining insane patients in the hospitals during the year 1900 was about 10s. 9½d. per head, of which the State paid 9s. 2d., the balance being made up by contributions from the

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estates of the patients themselves, or by their friends. The subjoined table shows the average weekly cost per head, and the average private contributions, from 1891 to 1900 :—

| Year. | Cost per head to State. | Contribution per head from private sources. | Total weekly cost per head. |
|---|---|---|---|
| | s. d. | s. d. | s. d. |
| 1891 | 10 5¼ | 1 8 | 12 1¼ |
| 1892 | 10 2 | 1 9½ | 11 11½ |
| 1893 | 9 6¼ | 1 8½ | 11 2¾ |
| 1894 | 8 11 | 1 8 | 10 7 |
| 1895 | 9 4 | 1 7¼ | 10 11¼ |
| 1896 | 9 0¼ | 1 5½ | 10 5¾ |
| 1897 | 9 3 | 1 5¾ | 10 8¾ |
| 1898 | 9 5 | 1 7½ | 11 0½ |
| 1899 | 9 5½ | 1 7½ | 11 1 |
| 1900 | 9 2 | 1 7½ | 10 9½ |
| Average for 10 years | 9 5½ | 1 7½ | 11 1 |

The following table gives a distribution of the average weekly expenditure per patient in each of the hospitals for the insane during the year 1900. The Kenmore hospital has only been recently established, and has the burden of a comparatively heavy initial cost. This institution is fitted with every convenience which experience and humanity can suggest :—

| Hospital. | Daily average number of Patients. | Average Weekly Expenditure per Patient. | | | | | |
|---|---|---|---|---|---|---|---|
| | | Salaries and Fees. | Provisions, Stimulants, etc. | Medicines and Surgical Instruments | Stores, Fuel and Light, and incidentals. | Total Weekly Cost. | Net Cost to State. |
| | | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. |
| Gladesville | 866 | 0 4 10 | 0 3 9½ | 0 0 1 | 0 2 4 | 0 11 0½ | 0 8 10 |
| Parramatta | 1,124 | 0 3 10¾ | 0 3 5½ | 0 0 0½ | 0 2 0½ | 0 9 4½ | 0 8 6½ |
| Callan Park | 832 | 0 5 2½ | 0 4 3½ | 0 0 1½ | 0 2 5½ | 0 12 1½ | 0 8 10½ |
| Newcastle | 335 | 0 3 8½ | 0 2 8½ | 0 0 0½ | 0 1 10½ | 0 8 3½ | 0 7 3 |
| Rydalmere | 524 | 0 4 0½ | 0 3 1½ | 0 0 0½ | 0 2 1½ | 0 9 4½ | 0 8 6 |
| Kenmore | 450 | 0 5 11½ | 0 4 6½ | 0 0 1½ | 0 3 10½ | 0 14 6½ | 0 13 9 |

During 1900 the total expenditure on the insane amounted to £121,453, of which £115,791 was the cost of maintenance of the various hospitals, and £1,358 the cost of maintenance of patients in the Lunatic Reception House, Darlinghurst; £3,104 represented the expenditure on the department generally, and £1,200 was paid on account of New South Wales patients in South Australian institutions. From that amount there falls to be deducted a sum of £17,600 derived from collections, etc., leaving the net cost to the State at £103,853. The amount received on account of patients in the State hospitals was £17,600, leaving the net annual cost in these institutions at £98,190, equal to £23 15s. 4½d. per patient. In the course of the last ten years the number of patients

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resident in the hospitals for the insane has increased by 39·62 per cent., while during the same period the increase in expenditure has only equalled 21·31 per cent.

Criminal lunatics are confined at Parramatta. At the end of 1900 the number in confinement was 54, of whom 46 were males and 8 females, as compared with 51 twelve months before. The offences for which the criminal insane are detained are amongst the blackest in the calendar, as will be seen from the following table, which refers to the number in the institution on the 31st December, 1900 :—

| Crimes committed by the Insane. | Number of Insane. | | |
|---|---|---|---|
| | Males. | Females. | Total. |
| Murder | 18 | 4 | 22 |
| Attempt to murder | 1 | 2 | 3 |
| Indecent assault | 2 | ..... | 2 |
| Unnatural offence | 2 | ..... | 2 |
| Cutting and wounding, shooting with intent, etc... | 13 | 1 | 14 |
| Sheep and horse stealing | 1 | ..... | 1 |
| Burglary, breaking and entering | 3 | ..... | 3 |
| Arson and malicious burning | 2 | 1 | 3 |
| Vagrancy | 1 | ..... | 1 |
| Obtaining money under false pretences | 1 | ..... | 1 |
| Placing obstruction on railway line | 1 | ..... | 1 |
| Assault and robbery | 1 | ..... | 1 |
| Total | 46 | 8 | 54 |

Detention in the hospitals for the insane is usually terminated by the discharge of the patient on recovery, or for probation when relief has been afforded, to which, of course, must be added removal by death. Omitting the few cases where patients absconded, the following figures give the departures during the last ten years :—

| Year. | Discharged. | | | | Died. | |
|---|---|---|---|---|---|---|
| | Recovered. | | Relieved. | | | |
| | Males. | Females. | Males. | Females. | Males. | Females. |
| 1891 | 168 | 129 | 11 | 17 | 167 | 66 |
| 1892 | 154 | 107 | 17 | 14 | 122 | 69 |
| 1893 | 156 | 130 | 21 | 21 | 172 | 74 |
| 1894 | 162 | 134 | 27 | 27 | 130 | 69 |
| 1895 | 175 | 133 | 32 | 20 | 151 | 72 |
| 1896 | 185 | 147 | 26 | 19 | 165 | 66 |
| 1897 | 149 | 138 | 17 | 23 | 177 | 72 |
| 1898 | 174 | 148 | 14 | 25 | 159 | 87 |
| 1899 | 207 | 135 | 31 | 35 | 189 | 60 |
| 1900 | 165 | 169 | 37 | 29 | 197 | 79 |
| Total ... | 1,695 | 1,370 | 233 | 230 | 1,629 | 714 |

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During the period included in the above table 6,246 male and 4,050 female patients were under treatment; therefore the proportion per cent. of the total number belonging to each class was—

| | Per cent. of Patients. | |
|---|---|---|
| | Males. | Females. |
| Recovered | 27·14 | 33·83 |
| Relieved | 3·73 | 5·68 |
| Died | 26·08 | 17·63 |

The returns for the same period show the following results:—

| | Males. | Females. |
|---|---|---|
| Avérage annual discharges | 193 | 160 |
| Average annual re-admissions | 52 | 46 |

whence it appears that of the patients discharged as recovered or relieved, some 26·8 per cent. of males and 28·8 per cent. of females are re-admitted. Deducting, therefore, from the number of discharges the probable cases of relapse, it will be found that on an average the annual number of permanent recoveries, temporary recoveries, and deaths will be represented in the following proportions:—

| | Males. | Females. |
|---|---|---|
| Permanent recoveries | 397 | 493 |
| Temporary recoveries | 145 | 199 |
| Deaths | 458 | 308 |

Hence it may be said that out of every thousand males who become inmates of asylums for the insane, 397 will be released from their suffering by recovery, and 603 only by death; and of females, the proportion will be 493 by recovery, and 507 by death. As the average age of the patients does not differ greatly in the case of both sexes, the comparison may be accepted as a fair one, especially as the average time of residence in the asylum is also about the same.

The average period of residence can be determined indirectly from a comparison between the number of persons admitted and those resident on a given date, and it would appear that for the ten years which closed with 1900, the average was 5·28 years for males and 5·14 years for females.

As the average annual cost of each patient is £23 15s. 4½d., every person who is admitted to the hospitals for the insane entails a loss to the State of about £125.

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